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Talking about the menopause: symptoms, support and the role of exercise

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Contents

Introduction and guidance

Introduction

Welcome to this free OpenLearn course on menopause. The course is designed to help anyone whose life is affected by the menopause, whether you are experiencing the menopause or supporting someone who is. No matter which gender you identify with, this transitional phase can affect people in many ways, so this course is open to everyone.

The course has four sessions and you can work through the course at your own pace. So if you have more time one week there is no problem with pushing on to complete another session. The four sessions consist of the following:

- Session 1: What are we are talking about?
- Session 2: Symptoms and strategies
- Session 3: Managing sleep and stress during the menopause
- Session 4: Exercise and the menopause

Learning outcomes

The objectives of the course are to empower everyone, by increasing knowledge of the menopause and the effects it can have. This is done through enabling awareness of the treatment options that are available and considering in a practical and realistic way the contribution of lifestyle factors to the experience of menopause and to health in the mid-life phase and beyond. You may simply want to learn more about the menopause, in order to support those going through the transition around you in your work or personal life.

After studying this course, you should be able to:

- appreciate what defines menopause, the various stages and the range of symptoms associated
- understand what happens to hormone levels during menopause and the effects of these changes
- understand the effects of menopause on cognitive function, mood and mental health
- challenge some of the traditional beliefs and views about menopause.

Moving around the course

In the ‘Summary’ at the end of each session, you can find a link to the next one. If at any time you want to return to the start of the course, click on ‘Course content’. From here you can navigate to any part of the course. Alternatively, use the session links at the top of every page of the course.

It’s also good practice, if you access a link from within a course page, to open it in a new window or tab. That way you can easily return to where you’ve come from without having to use the back button on your browser.

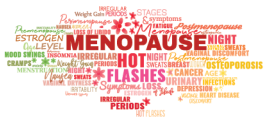
Once you have completed the course, you will be able to access and download a free Open University Statement of participation.

Get started with Session 1.

Session 1: What are we are talking about?

Introduction

According to the British Menopause Society (2020), menopause is ‘a major life event affecting all women in a variety of ways, both short and long term’. So, what is menopause?



The word ‘menopause’ simply refers to the end of the menstrual cycle, which is caused when the ovaries stop producing eggs. The term comes from the Greek terms *menos* (meaning month) and *pausos* (meaning ending) (Hillard *et al.*, 2017).

Activity 1 Introduction to menopause

Allow 10 minutes

By way of introduction, watch Video 1, where members of the public are asked about their understanding of the menopause.

Video content is not available in this format.
Video 1 What is the menopause?

Now compare your own perceptions of the menopause to those of the people interviewed in the film.

Provide your answer...

Discussion

Different people will have a different understanding of the menopause but seeing it as the change is useful as hormone levels change so how the person feels changes and this can affect what they do and how they behave around other people. Also, looking at the menopause as ‘puberty in reverse’ is interesting as those hormones whose levels rose during puberty are now falling causing unpleasant symptoms.

By the end of this session, you should be able to:

- explain what happens during the menopause and the impact this has
- identify the different types of menopause
- identify when the menopause happens and its different stages
- appreciate the hormones involved the roles they each play.

1 Exploring the menopause

In this section you'll continue to think about what the menopause is, including typical symptoms and possible treatments.

Activity 2 What is the menopause?

Allow 20 minutes

Watch this animation that introduces the menopause.

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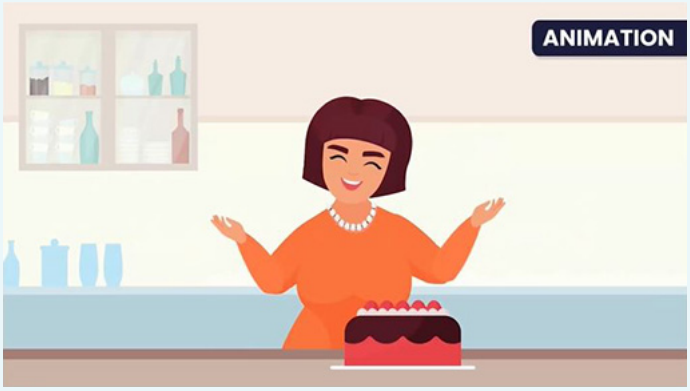
Video 2 Introduction to the menopause



Then answer these questions:

1. What are the two main hormones involved in the menopause?
2. When does the menopause typically start?
3. Why may women experience symptoms before their menopause starts?
4. What are the most common symptoms of the menopause?
5. What three things can be done to treat the menopause?

1.
2.
3.
4.
5.

Discussion

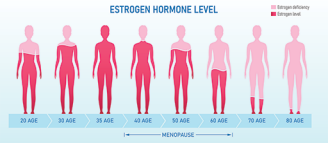
1. Oestrogen and progesterone are the main hormones, although as you will see later there are other hormones involved.
2. The menopause is diagnosed once a woman has not had a period for 12 months.
3. This is because in the few years before the menopause they may be in perimenopause where they start to experience menopausal-type symptoms.

4. The most common symptoms in early menopause are hot flushes, night sweats, mood changes, disturbed sleep, anxiety, irritability, and brain fog. Other symptoms include vaginal dryness and discomfort during sex.
5. Types of treatment are replacement of oestrogen via Hormone Replacement Therapy, alternative therapies, and exercise.

2 When does the menopause happen?

Menopause will happen to everyone who has a menstrual cycle. And many people find exactly that – it just *happens* to them, often bringing about changes that they have possibly never thought about before, far less anticipated. For some, menopause is a gradual process that occurs as they end their fertile years. But for others, the transition happens almost overnight, where menopause is 'induced' or accelerated by the sudden reduction of hormones that occur as a result of surgery (e.g. hysterectomy), or medical interventions, such as some types of treatment for cancer (Hillard *et al*., 2017).

A 'natural menopause' occurs as a part of the expected transition of the body from being fertile and able to produce children to being no longer capable of becoming pregnant (Northrup, 2012). This occurs as the levels of hormones gradually change, with a substantial fall over time in the production of oestrogen. For some people, this process might last for perhaps 4–5 years, while for others, it can take up to 12–13 years (Newson, 2019; Northrup, 2012). The following figure shows how oestrogen levels fall across the lifespan.



You can see there is a significant decline in oestrogen between the ages of 50 and 60 where symptoms such as low mood, brain fog and increased anxiety accompany this reduction.

3 Types of menopause

Some people can experience a naturally occurring menopause much younger than the expected age. ‘Early menopause’ is defined as a menopause occurring between the ages of 40 and 45 (Hillard et al., 2017), but menopause can arrive even earlier, as early as the teens or twenties. Where menopause symptoms occur under the age of 40, this is termed as premature ovarian insufficiency (POI) (Hillard *et al*., 2017). This can be extremely distressing for those who are still in the reproductive part of their lifecycle. There is a lot of really useful information and support available on the Daisy Network website.

The menopause can also occur due to medical interventions as shown in Box 1.

Box 1 Surgical and medical menopause – What’s the difference?

Surgical menopause occurs when someone has to undergo a hysterectomy (removal of the uterus). Sometimes, this procedure is accompanied by removal of one or both ovaries (oophorectomy). If one or both ovaries are left in place during the surgery, it is relatively common for people to experience menopause within 5 years of a hysterectomy.

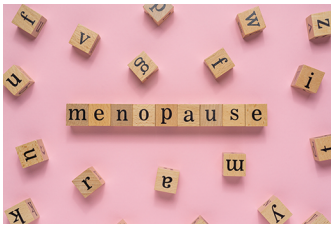
Medical menopause occurs as a result of the effect of drug interventions, such as treatment for cancer, and again, this would result in a sudden onset of the menopause.

(Rayner and Fitzgerald, 2016)

When there has been either a surgical or a medical menopause, particularly where this has occurred before the usual age when menopause would be expected, the time frame can be radically different. It is the medical intervention – rather than a natural process – that leads to a change in hormone levels. This change tends to be a very sudden drop-off rather than a gradual decline, and some people can then find themselves plunging into a whole host of distressing menopause symptoms, rather than them gradually building up. To reduce the impact of these sudden changes and to afford protection to longer term health, HRT is usually prescribed following the medical intervention that resulted in menopause (Liverpool Women’s NHS Foundation Trust, 2020).

4 Why do words matter?

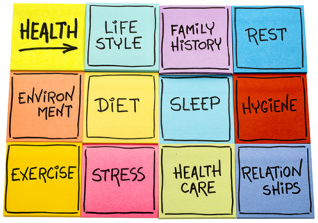
It is interesting to notice the vocabulary that is often used around ‘menopause’. Words like ‘lack’, ‘loss’, ‘decline’, ‘old’, ‘thinning’, ‘dry’, ‘infertile’, ‘symptoms’ and ‘problems’ are quite common. This kind of vocabulary can encourage people and societies to associate menopause with ‘suffering’ and to treat it as an illness, medical condition or dysfunction (Rayner and Fitzgerald, 2016), with ‘solutions’ coming from medication and clinical interventions. Moreover, the terminology that is widely used can be disempowering, making people feel as if they are losing who they are, becoming a burden, that they are no longer sexually attractive, and are on a downward slope in their lives. Indeed in some societies there is no terminology for the menopause and it is regarded as so taboo that it is never discussed.



In this course, you will find some different words, helping you to view the menopause in a different way, as a new beginning (Rayner and Fitzgerald, 2016), a time of positive change and transition to another phase of life – the mid-life. Thebe (2020) goes as far as to say it’s a ‘magical’ time. This view is supported by conversations around mid-life suggesting that this time could be a time of freedom, joy and a feeling of flourishing (Williamson, 2008). These interpretations and an understanding of terminology can help to de-stigmatise the menopause, raise awareness of its impact and remove the embarrassment often experienced when people talk about it (Newson, 2019).

5 Factors affecting the severity of the menopause

On average the menopause starts aged 51; however, the perimenopause that is described as ‘the change before the change’, characterised by menstrual irregularity, starts on average at age 47.5 years. That said, the age when the menopause is expected to start can depend on a range of genetic and environmental factors (Hillard *et al*., 2017). Lifestyle factors like smoking and excess alcohol consumption can lead to an earlier menopause (Henpicked, 2018), and high stress levels, particularly stressful events, can do the same. Genetics is also a significant factor. It is likely that the age when the menopause is first experienced will be similar to the age when the person’s mother experienced theirs (Henpicked, 2018), and they may also experience similar intensity of symptoms.



While there is variability in the age when the menopause starts there is also variability in the type and severity of symptoms that will be experienced. There are some people who will not experience any symptoms. Of those who do experience symptoms, 25% will have mild symptoms, 50% will have moderate symptoms that affect their daily life, and 25% will have severe symptoms that seriously impact on their wellbeing (The Well HQ, 2022).

Another factor that can influence how the menopause is experienced is lifestyle. Being overweight and undernourished, as is common in people who live a Western lifestyle, being sedentary, not sleeping well and being chronically stressed are all factors that affect our general health and wellbeing and exacerbate the symptoms of menopause.

6 Looking closer: the phases of the menopause

‘Menopause’ tends to be used fairly loosely, as a term to describe the entire process from the beginning of the signs of menopause to when the symptoms recede. While the menopause is when the periods stop there are four distinct stages as shown in Box 2.

Box 2 Stages of the menopause

- Pre-menopause: the time span from puberty before any menopausal symptoms occur.
- Perimenopause: when menopausal symptoms due to hormonal changes are experienced but periods are still present, although they may be irregular or changing in nature.
- Menopause: when a person has not had a period for 12 consecutive months.
- Post-menopause: the stage after the period has been absent for 12 months.

(Adapted from Newson, 2023)

As shown in Box 2, when 12 months have elapsed since the last menstrual period, an individual is considered to be in menopause. After this time, they are post-menopausal (Hillard *et al*., 2017), and they will be in post-menopause until death. Experience of *symptoms* in the post-menopause phase can last for anything from a couple of years up to much longer, and there seems to be little agreement on this. According to Newson (2019), the average length of the menopause is about four years after the last period, while one in ten women can experience symptoms for up to 12 years.

7 Which hormones are involved during menopause?

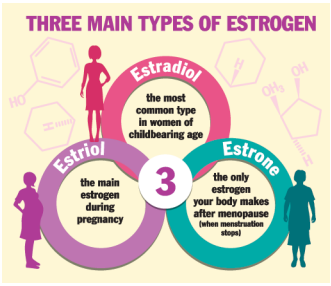
A hormone is described as being a 'chemical messenger' that is transported around the body to stimulate action in specific cells or tissues (Burrell *et al*., 2014). There are a total of some 47 hormones secreted from nine endocrine glands in our bodies, including the ovaries. They are responsible for a range of functions including sleep regulation, metabolic processes, blood sugar control, maintaining healthy blood pressure, regulating fluid volume and keeping bones healthy.

During the menopause changing levels of three hormones – oestrogen, progesterone and testosterone – have an impact on the body and mind. You will look at each of these hormones now.

7.1 Oestrogen

Menopause is commonly associated with changes in sex hormones, in particular the reduction of oestrogen.

As shown in the following f, oestrogen (also spelt estrogen) is not one hormone but three. Firstly, oestradiol (E2) is the predominant type and is produced in the ovaries. Low levels of this hormone contribute to an increased risk of cardiovascular disease and weight gain. Secondly, oestrone (E1) which is a weaker type of oestrogen predominant in post-menopausal women, and thirdly oestriol (E3), which is produced by the placenta during pregnancy (Burrell *et al*., 2014).



The ovaries provide the site for the production of most of the body's oestrogen in pre-menopausal people, but it is also made by fat tissue and in the liver and adrenal glands (Mansberg, 2020). Once oestradiol (E2) production shuts down in menopause, the body continues to produce oestrone (E1). However, this form of oestrogen promotes breast cancer in obese females and, unlike oestradiol, does not have a protective effect on bones, the cardiovascular system and the brain (Burrell *et al*., 2014).

There are oestrogen receptors all over the body, and thus this hormone influences many body processes, with important roles in cognitive health, including memory and ability to concentrate, mood changes through its role in regulating the feel good chemical serotonin, bone and joint health, the regulation of body temperature, and the function of the cardiovascular system (Mansberg, 2020). During menopause, falling levels of oestrogen are associated with symptoms such as loss of bone density potentially leading to osteoporosis. Also, oestrogen protects cardiovascular health by looking after the heart

and circulatory system, so that after menopause, women can become more prone to heart disease.

7.2 Progesterone

During the menstrual cycle progesterone provides balance to oestrogen in the body, for example by preventing overgrowth of the lining of the uterus that is encouraged by oestrogen so that if an egg is fertilised, it has a nice comfortable bed to lie in! In perimenopause, progesterone levels start to fall off before oestrogen levels, and it is this that causes the 'hormone hell' that Mansberg (2020, p. 48) calls this time. The balance between oestrogen and progesterone is disturbed, so that oestrogen becomes relatively excessive as progesterone levels wane. This change in hormone balance produces particularly difficult symptoms, including anxiety, difficulty sleeping and breast tenderness.

Progesterone is a powerful component in our metabolic functioning, enabling us to burn fat to produce energy, and along with thyroid hormones, regulates metabolism. It also increases our pain threshold, helps us sleep and, being the 'chill-out hormone' (Mansberg, 2020, p. 117), enhances feelings of calm. Small wonder, then, that when so much less progesterone is produced in menopause, people find they are gaining weight, lose their body confidence and sex drive, can't get a good night's sleep, and can feel irritable, anxious and find it difficult to relax.

7.3 Testosterone

Testosterone is another hormone whose levels can also be affected in menopause. Testosterone is produced in the ovaries and adrenal glands and is important for the function of the reproductive system. At menopause levels of testosterone can fall but this doesn't happen to everyone; indeed, the production of androgens, of which testosterone is one, can actually increase.

Activity 3 Testosterone

Allow 15 minutes

Take a look at Video 3 from the British Menopause Society in which Dr Nick Panay talks about the role of testosterone in the female body and the effects of supplementation.

View at: youtube:2AKTgi_nqLM

Video 3 Testosterone explained (Please note The Open University is not responsible for third party content.)

Then answer the following questions:

1. What is the effect of low testosterone levels?
2. What are the potential side effects of testosterone replacement

1.
2.

Discussion

1. When testosterone levels fall, this can result in lowering of libido (sex drive) and sexual function, as well as changes in body composition and bone density, mood and energy levels.
2. In some people taking testosterone, it can produce excess hair growth, acne and an increase in weight.

Lack of libido and impaired sexual function can be a very distressing symptom, as it affects not only the sufferer, but also their intimate relationships. Testosterone is sometimes prescribed – in the form of a cream – for some people with low sex drive in menopause. For those who can benefit from it, testosterone can 'change everything for the better' (Gluck and Edgson, 2010, p. 165) through its impact not only in improving libido and sexual function, but also because it can improve bone density and muscle tone, enhance mood, energy, mental clarity, confidence and assertiveness, and also improve heart and liver health (Henpicked, 2018).

Some worry about the unwanted side effects that can be associated with an excess of testosterone, for example, increased hair growth of bodily and facial hair, greasy skin and acne, and a lowered voice. However, excess testosterone is unusual in females (Mansberg, 2020; Burrell *et al*., 2014), and for this reason and its effectiveness in improving libido, it can be prescribed by menopause specialists (it is currently unlicensed in the UK for this use, so GPs cannot prescribe it) (Newson, 2019).

8 Summary of Session 1

So far you have been introduced to the hormones and what happens to them in menopause. There is a lot to consider here but hopefully there is enough detail here to give you an understanding that will underpin your work on the rest of this course. In this session, you have explored:

- what the menopause is
- types of menopause
- when menopause happens and the stages
- the roles of oestrogen, progesterone and testosterone and the impact of their reduced levels on the body
- what happens during the menopause and the impact this has
- the different types of menopause
- when the menopause happens and its different stages
- the hormones involved the roles they each play.

In the next session, you will learn about the symptoms of menopause that are produced by these hormonal changes. Now move on to Session 2.

Session 2: Symptoms and strategies

Introduction

The menopause is often identified by the symptoms that the sufferers experience rather than the physiological changes caused by falling levels of hormones produced. In this session we explore some of these symptoms and the impact they can have.

To introduce this session, watch Video 1 in Activity 1 where members of the public are asked what they think are the significant symptoms of the menopause and what can be done about them.

Activity 1 Menopause symptoms

Allow 10 minutes

Watch Video 1 and note down the symptoms mentioned and also what the contributors think can be done to improve the experience of menopausal women.

[MUSIC PLAYING]

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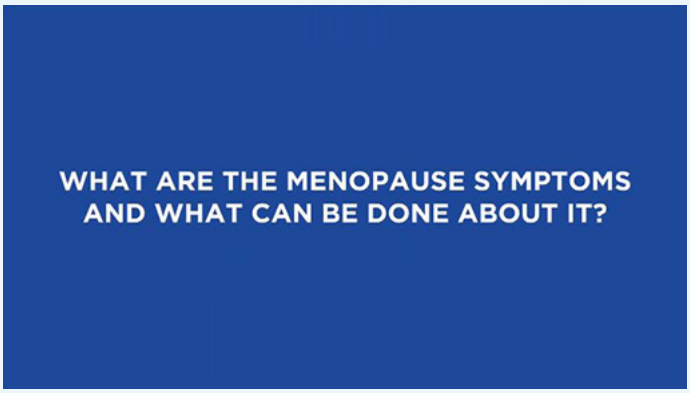
Video 1 Symptoms of the menopause and what can be done about it



Discussion

Night sweats, hot flushes, pain, anger and thought (brain) fog are all identified by the contributors. Hot flushes are described graphically as the feeling of heat rising up your body and you are so hot you don't know what to do. The emotion attached

to the descriptions makes the symptoms sound more serious that when we read them.

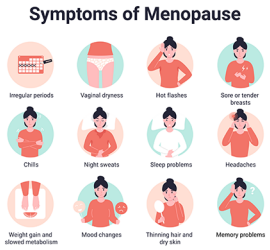
The worst thing that we can do is carry on like nothing happens while being educated and showing understanding are two positive things we can do to understand the experiences of other people.

By the end of this session, you should be able to:

- identify common and less common symptoms associated with menopause
- appreciate the effects of menopause on people's lives and work
- understand the main approaches available in treating menopause symptoms
- understand the role of Hormone Replacement Therapy (HRT).

1 Symptoms of the menopause

Newson (2023) identifies 32 main symptoms of the menopause. However, there are at least 66 recognised symptoms, from the commonly recognised hot flushes, night sweats, ‘brain fog’, and mood swings, to the lesser known ones, including headaches, frozen shoulder, painful joints, fragile finger and toe nails, and the even lesser known psychological symptoms. (Kaye, 2020; Hillard et al., 2017). Some of the most common symptoms are shown in the following figure.



Menopause can impact on just about every area of a person’s life – work and career, close personal and family relationships, friendships, and social lives, as well as on their inner lives, with confidence, self-esteem, self-concept and sense of purpose often affected, and those in menopause feeling ‘invisible’ (Thebe, 2020). These effects can be the most difficult to identify and talk about. Now we will explore some of the most significant symptoms in more detail.

1.1 The hot flush

The hot flush has become something of the butt of menopause jokes. You will find a wide range of hot flush merchandise available – cards, mugs, fridge magnets and even tote bags! And while it’s good to have a laugh hot flushes are no fun. They can be extremely unpleasant, causing discomfort and embarrassment in all sorts of settings: at work, out shopping, during exercise, at social gatherings, and at home when we are trying to relax and enjoy time with our partners and loved ones.

Hot flushes (or flashes) are the most common symptom of the menopause, with 3 out of 4 people affected (Newson, 2019). A hot flush is a sudden feeling of intense heat that spreads over the face, neck, chest and body. Most hot flushes last for seconds or up to 5 minutes (Kaye, 2020), and can be accompanied by sweating, dizziness and palpitations (Newson, 2019), as well as nausea (Kaye, 2020). For some people they happen a few times a day, while for others, they occur much more regularly, including during the night, when they can be accompanied by intense sweating and contribute to insomnia (Kaye, 2020). On average, menopausal hot flushes will persist for four years, but for some, they can last into their 60s or 70s (Newson, 2019).

1.2 Weight change

Particularly common in perimenopause and menopause is the accumulation of weight, particularly around the mid-section. This can have an impact on self-esteem, body confidence and motivation (Newson, 2023). This weight gain is often exacerbated by lowered activity levels in this stage due to symptoms such as joint pain, breast pain and hot flushes. Abildgaard et al (2021) identified that during the menopause changes in body composition occur, including loss of lean mass (muscle), an accumulation of fat tissue, and a redistribution of fat to the abdominal area. Activity 2 explores some of the factors that cause this weight gain.

Activity 2 Weight gain and menopause

Allow 15 minutes

Watch Video 2 about weight gain and menopause from the North American Menopause Society.

View at: youtube:c4EH3ywLcOQ

Video 2 Weight gain at menopause (Please note The Open University is not responsible for third party content.)

The answer the following question:

Why does weight gain occur at menopause?

Discussion

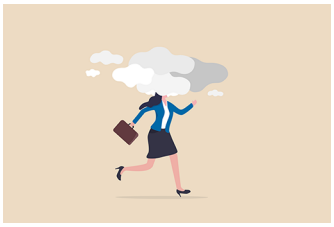
There are several factors at play here but the most significant one is the reduction of oestrogen causing a loss of muscle tissue, referred to as sarcopenia, and a subsequent fall in the metabolism, meaning that fewer calories are needed to maintain the same weight. However, changing levels of exercise, stress and increases in calorie consumption can also play a role at this stage in life.

If you are able, exercising during the menopause can help to control weight gain and this will be examined in Session 4. Also, good nutrition has a significant role to play, and this is examined in Session 3.

1.3 Brain fog

Difficulty in focusing or concentrating and in remembering things is common in menopause. This is sometimes called ‘menopausal fog’ (Kaye, 2020) or, more commonly, ‘brain fog’ (Newson, 2023).

Our brains contain hormone receptors, and oestrogen in particular promotes the growth of nerve cells (neurons) and the formation of connections in the brain (Rayner and Fitzgerald, 2016). So, when hormone levels fall, cognitive function and memory are affected (Newson, 2019).



What can you do about ‘brain fog’? Rayner and Fitzgerald (2016) suggest a number of strategies:

- exercise, which increases blood flow (and therefore oxygen levels) in the brain
- staying hydrated, as water is crucial to good brain function
- playing games like Sudoku or doing crosswords
- socialising with friends and family
- eating foods which have been shown to improve cognitive function, such as oily fish, soy, fruits and vegetables
- getting a good night’s sleep.

1.4 Declining pelvic floor health

Pelvic floor muscles are those muscles across the bottom of the pelvis that support the contents of the abdomen. Good pelvic floor health is vital in exercise and also during everyday activities. Activities that involve high impact movements, such as running and jumping, rely on the pelvic floor being able to withstand the forces placed on them, or else the result is leakage of urine, or urinary incontinence (UI). Oestrogen plays a key role in maintaining the pelvic floor and this is affected by the reduction in its levels. Also this reduction of oestrogen can lead to the thinning of the lining of the bladder and the urethra (the tube that carries urine from the bladder) (Newson, 2023). These factors can contribute to leaking from the bladder when the pelvic floor muscles are put under pressure from coughing, sneezing or sudden loading movements, such as when landing during running or jumping. The pelvic floor muscles may have already been weakened through vaginal child birth or obesity. Pelvic floor exercises should be performed daily and as part of a strength and conditioning programme to maintain pelvic floor function and avoid any leakage. Pelvic floor health during the menopause will be examined further in Session 4.

2 Menopause and work

Research has shown that the menopause has a dramatic effect on people's working lives, with 60% of those experiencing menopause saying that they have changed their working patterns or reduced their working hours in order to cope with their symptoms, and 30% saying that they could not go into work due to symptoms (CIPD, 2022). With women making up 47% of the UK workforce and 4.3 million women aged 50+ in employment in the UK (CIPD, 2022), it is easy to see the huge potential impact of menopause on the annual economy, as well as to workers' families and quality of life, as income is reduced or lost.

Given this context, it is encouraging to see that many employers – supported by the work of the trades unions, bodies such as the Chartered Institute of Personnel and Development and the training provided by forward-thinking communities such as Henpicked, are now developing their own menopause in the workplace policies. In Session 1 Video 2 there were some simple steps that could be taken to make menopausal women more comfortable in workplace settings.

Within the context of this course, this section is very short. But this is such an important area, and if you are interested in reading further about menopause and the working environment, check out the website, The menopause at work: a guide.

3 Treatments and strategies: an overview

Broadly speaking, common menopause treatments fall into three categories. In no particular order, these are:

- Medical: Hormone replacement therapy (HRT), or Hormone therapy, as it is known amongst menopause professionals, bio-identical hormone therapy, and the use of prescription drugs that are more usually used for other medical conditions, e.g. anti-depressants like Citalopram and Fluoxetine.
- Complementary and alternative therapies: Herbal supplements, such as black cohosh, St. John's Wort, red clover and other isoflavones or phytoestrogens (which act in the body in a similar way to our natural oestrogen), acupuncture, reflexology and mind-body techniques like yoga.
- Lifestyle solutions, such as exercise, nutrition, stress reduction and management, strategies to promote good sleep (e.g. developing 'sleep hygiene') and use of relaxation techniques.

3.1 The NICE Guidelines

In 2019 in the UK, the National Institute for Health and Care Excellence (NICE) updated their recommendations to be used by GPs and other health professionals for the diagnosis and treatment of menopause. These guidelines state that your GP should discuss your menopause with you, focusing on five main areas:

1. The stages of the menopause.
2. Diagnosis of menopause and the symptoms that can be expected.
3. The use of treatments like HRT, non-hormonal medications (e.g. anti-depressants) and therapies like CBT.
4. Lifestyle change to manage symptoms as well as to protect general health and wellbeing.
5. The impact of the menopause on health into older age.

The intention of the NICE guidelines is to provide people with a clear route through their menopause, as well as changing the menopause landscape so that people no longer feel that it's 'just my hormones' and they have to suffer in silence. But the guidelines have not only impacted on women. They have also changed the way menopause is viewed and addressed more widely, by women's families and employers. This in turn is leading to some more open conversations about menopause, as well as a more practical and helpful approach to supporting women in staying well and able to function in all areas of their lives through their menopause, as well as putting into place lifestyle strategies that can ensure better health as they move forward in their lives.

3.2 Hormone Replacement Therapy (HRT)

> 'There is a need to improve knowledge about the long-term benefits and risks of HRT. No other treatment has been shown to be as effective as HRT for menopausal symptoms, though the balance of risks and benefits varies among women.'
>
> (NICE, 2019)

HRT is taken to alleviate the symptoms associated with the menopause and allow people to feel like their pre-menopausal selves. HRT had its beginnings in the 1960s but gained

in popularity during the 1990s. Initially, it was lauded as the answer to the menopause and was widely prescribed. However, a 2002 report, the Women's Health Initiative Study, drew links between HRT use and breast cancer which scared many into stopping their HRT, as well as discouraging GPs from prescribing it.

Activity 3 Hormone Replacement Therapy

Allow 20 minutes

Watch this film from the British Menopause Society in which Kathy Abernethy talks about HRT, what it is and how it is used:

View at: youtube:0cx7icxn7Y0

Video 3 What is Hormone replacement therapy? (Please note The Open University is not responsible for third party content.)

Then answer the following questions:

1. How is HRT taken?
2. What are the benefits of taking HRT?
3. Are there any side effects to HRT?

Discussion

HRT can be taken in the form of pills, patches, or gels. Patches are often favoured as they are slow releasing and means that it is less likely that medication is missed.

Apart from improving the symptoms of the menopause the reintroduction of hormones will benefit the cardiovascular system, bone health, cognition, and memory. There can be side effects in that it can initially cause headaches and breast tenderness, but these often subside or can be mitigated by the doctor altering the dose.

As mentioned before a 2002 study linked HRT to breast cancer but this link has since been discredited. There were huge flaws in this study, such as the sample group having an average age of 63 and already had significant risk factors for cancer. For example, 50% of them were either smokers or ex-smokers, over a third had been diagnosed with high blood pressure and 70% were overweight or obese (Langer et al, 2021).

Also it is really important to say that the type of oestrogen and progesterone taken were very different to the type taken today. The oestrogen was derived from pregnant horses' urine and the progesterone was synthetic. In contrast the HRT taken today is 'body-identical' and much safer (Langer et al, 2021). As with any drug there can be a risk to health and factors such as age, weight, smoking status and alcohol intake can increase the risk of taking HRT. This is why it is so important that women have an individual consultation with a doctor before making any decisions around HRT(Newson, 2023).

3.3 Complementary and alternative therapies

Although HRT is the right treatment for many in menopause, it is actually only used by about 20% of people experiencing menopausal symptoms. This may be influenced by GPs lacking confidence in prescribing HRT due to the many formulations available or feeling reticent to do so. Some people, however, choose not to use HRT. This may be because their symptoms are slight, or they prefer to opt for complementary and alternative therapies.

Some people have found therapies like acupuncture helpful in reducing their symptoms. In particular, regular acupuncture treatments over a period of at least 5 weeks has been shown to reduce anxiety, hot flushes, night sweats, and improve sleep.

3.4 Anti-depressants

Many people who are experiencing menopause symptoms will turn to their GP as the first port of call. And many will come away from their appointment with a prescription for anti-depressant medication. Anti-depressants can certainly help some of the symptoms of menopause. For example, there is some evidence that these medications can reduce the severity and occurrence of hot flushes, reduce anxiety and aid sleep. However, it is now understood that anti-depressants are not the most effective or appropriate treatment for those experiencing low mood as a result of menopause, and that other options should be explored. In particular, evidence has shown that for people who do not have a current diagnosis of depression, these medications are not helpful in relieving low mood occurring as a result of menopause.

3.5 Herbal remedies

There are many over-the-counter herbal remedies available for menopause, with larger chemists and health food shops often having whole shelving sections dedicated to menopause products. These include formulations containing several herbs, or single herbs or oils in tablet form, and they can come with promises of 'curing' menopause symptoms. With all herbal remedies, however, we should remember that 'herbal' does not necessarily mean 'gentle'. Herbs can be powerful drugs. They come with possible side effects, contraindications and interactions (with prescribed medications, for example), so

it's important to closely follow the guidance on dosage, and to take any advised breaks in usage of a product.

Table 1 Herbal menopause remedies, benefits and warnings

Remedy	Benefits and notes	Warnings
St John's Wort (single herb)	Relieves low mood and hot flushes.	• Not suitable for those with a history of breast cancer. • Interacts with other medications, especially anti-depressants.
Black cohosh (single herb)	Relieves hot flushes.	• increased vaginal bleeding • decreased blood pressure • abnormal heart beat • blood clots • potential liver toxicity
Ashwagandha	• Adaptogen (chemicals that help normalise the body and return it to equilibrium). • Present in Ayurvedic preparations. • Reduces stress and production of cortisol, relieves hot flushes and night sweats.	• nausea, upset stomach, diarrhoea • drowsiness • not suitable for those with over-active thyroid • can interfere with other medications
Soya and red clover (contained in formulated products)	Contain isoflavones, a type of phytoestrogen that mimics action of oestrogen, providing general relief of symptoms.	• Limited evidence of effectiveness. • Not suitable for those with a history of breast cancer.

Those considering exploring herbal treatments should always ask their GP for advice first. If there are no medical reasons why they shouldn't take herbal remedies, the safest way to go forward with this route is to have a consultation with a qualified herbalist. You will find a register of herbalists in the UK at the National Institute of Medical Herbalists website.

4 Lifestyle solutions

There is an increasing awareness of the value of using lifestyle change to address the symptoms that accompany the menopause. This is the focus of a number of books and publications on using natural approaches to the menopause. Such approaches use things like nutrition, exercise, and relaxation strategies to improve health and well-being during menopause, helping people in menopause to feel better as well as promoting and protecting better health into the later years. We will examine these lifestyle solutions in future sessions.

5 Summary of Session 2

As we have seen, the symptoms of the menopause can be debilitating and have a serious impact on quality of life. However, there are many treatments and remedies that can be used to reverse these symptoms. For everyone, education is key here in knowing what is available and how it may affect them. However, it is also important that people are comfortable discussing their symptoms and potential solutions, so it helps if everyone around them has an understanding of these two things.

In this session, you considered:

- the main symptoms of the menopause
- hot flushes
- weight change in menopause
- ‘brain fog’
- the use of HRT in menopause
- other strategies that can be used during menopause.

In the next session, you will look at the impact of lifestyle factors, such as stress, sleep, and nutrition during menopause, and how they can help or hinder the menopausal person.

Now move on to Session 3.

Session 3: Managing sleep and stress during the menopause

Introduction

Welcome to Session 3, where you will be looking at the thorny problem of getting enough sleep in menopause.

As you have seen, menopause can come at a time when people are extra busy caring for others while at the same time trying to work and maintain a happy home. Menopause then introduces additional physical stress as the body tries to find equilibrium, and emotional stress as it tries to not only cope with the effects of menopause, but also accommodate the idea of entering a new phase in life. With menopause, many find that getting a good night's sleep, or any sleep at all, can be immensely difficult.

In the next sections, you will learn about how changes to a person's biochemistry can make sleep difficult during the menopause and how stress can make these problems worse.

At the end of this session, you should be able to:

- appreciate the effects of poor sleep and why sleep can be problematic in the menopause
- consider sleep hygiene and what you can do to improve both the quantity and quality of your sleep
- appreciate the effects of stress, and why stress can be worse in menopause
- find practical strategies to help reduce sources of stress and the impact it can have.

1 Why can’t I sleep?

While everyone will have a different experience of their menopause, there are some common factors that affect sleep in menopause.

Of course it comes as no surprise that the blame for difficulties in getting a good night’s sleep is due to changes in hormone levels. In particular the reduction in progesterone, rather than the usual culprit, oestrogen. Progesterone has an important benefit in terms of our mood, our levels of anxiety and in promoting relaxation (Newson, 2023). Before menopause, some people can experience a lovely feeling of wellbeing and feeling quite ‘chilled’ when they pass the midpoint of the menstrual cycle and progesterone was in ascendance. It’s no surprise to learn, then, that falling levels of this hormone can lead to restlessness, difficulty getting comfortable in bed and problems with sleep, most particularly a shift towards frequent waking through the night.

Other hormones are also implicated here as falling levels of oestrogen and progesterone levels affect melatonin, an important hormone in helping us to get to sleep and stay that way until it’s time to get up. Studies have shown that lower levels of testosterone can reduce sleep quality and duration in those in menopause. As this is an effect of ageing rather than being specifically related to menopause it is a reason why everyone might find that they don’t sleep as well as they used to as they hit their mid-life.

2.1 Insomnia and the menopause

Insomnia is simply a sleep disorder where individuals either find it difficult to fall asleep or to stay asleep. There are two main types of insomnia: initiation insomnia, which is difficulty getting to sleep, and maintenance insomnia, which is difficulty staying asleep and is characterised by frequent waking or waking in the early hours and being unable to get back to sleep. Both can affect people in menopause who have previously slept well. Either they can’t get to sleep, or they can fall asleep easily but wake after just one or two ‘sleep cycles’ (a sleep cycle is usually around 1.5–2 hours).

Problems with getting to sleep are commonly caused by:

- restlessness
- joint and muscle pain
- inability to ‘switch the brain off’ – more common in menopause due to the increased anxiety that can be a feature at this time of life
- difficulties in getting comfortable, sometimes due to hot flushes that can intensify towards the evening and night. Some report hot flushes happening the minute they get into bed and put the light out!

Sometimes there are no clear causes of frequent waking or waking very early and being awake for hours, meaning that this maintenance insomnia can be extremely frustrating for those unfortunate enough to suffer from it. There are some obvious causes such as:

- hot flushes or night sweats
- waking up with bladder discomfort and having to go to the toilet

- restlessness.

But the key underlying factors in maintenance insomnia are related to hormone balance. Low levels of progesterone can make sleep more difficult.

2 The effects of poor sleep

The effects of poor sleep can vary widely across individuals. We all need different amounts of sleep. Some people can thrive on no more than four hours' sleep a night while others need as many as nine hours a night.

However, getting fewer than 7 hours of sleep regularly can eventually lead to health consequences that affect your entire body (Healthline, 2023), as shown in Table 1.

Table 1 Effects of chronic poor sleep

Tiredness	Poor decision-making	Poor digestion and bloating	Increased risk of heart disease
Increased anxiety	Reduced long-term memory	Over- or under-eating	Increased blood pressure
Low mood	Reduced short-term memory	Weight gain	Type II diabetes
Depression	Irritability and grumpiness	Obesity	Clumsiness
Difficulty concentrating	Reduced sex drive	Weakened immunity	Increased risk of accidents

(Healthline, 2023)

Sometimes the expectation that we should sleep 'straight through' can be unhelpful, as this isn't normal. It is absolutely normal to 'wake up' up to five times a night. This occurs when we complete a sleep cycle (about 1.5 hours) and rise up to near consciousness before falling into the next sleep cycle. But when we wake, we should fall back to sleep very quickly, sometimes so quickly that we are barely aware we have been awake. When we wake and can't get back to sleep is when the problems start.

3 Sleep hygiene

The good news is, there is plenty you can do to help ensure you get better sleep on a regular basis.

You may be familiar with the term ‘sleep hygiene’, which refers to the habits and behaviours that we engage in before we go to bed. Our bedtime habits can interfere with sleep or support it. Basically, there can be value in ‘cleaning up’ these habits, particularly if we have held them for many years. The idea of sleep hygiene as a way of improving sleep has limited support in science, but many in menopause have found it helpful to take deliberate and consistent actions to improve their sleep. With our modern lifestyles not everyone has a normal 9–5 day and irregular working hours, such as shift patterns, can add in an additional challenge for some people.

Here are some general pointers to improving sleep hygiene that might be helpful. During the waking period:

- Avoid caffeine and sugar (if you have to eat it at all) after the middle of the day.
- Make sure you finish drinking the greater part of your fluid intake, which should consist of around 2 litres of plain water, in addition to tea, coffee, juice, 4–5 hours before you go to bed.
- Make breakfast and/or lunch your main meal/s of the day, and avoid eating three hours before you go to bed.
- If you have a middle-of-the-day nap, make it no longer than 25 minutes.
- Introduce a ‘device moratorium’, for at least an hour, before you plan to go to bed. This means that you don’t look at any screens – not your phone, your tablet, your laptop or your TV. These devices emit blue light, with interferes with the brain’s production of the ‘sleep hormone’, melatonin. If you can bear to, don’t even have your phone in the bedroom.

Many people find things like drinking herbal tea or meditation can be useful techniques before bedtime.

4 Increasing sleep drive

One piece of advice about sleep is that you should go to bed at the same time each night and then get up at the same time every morning. However, if significant stretches of this time in bed are spent awake then the strategy becomes flawed. Increasing sleep drive, or the desire to sleep, may be a better strategy as you will see in Activity 1.

Activity 1 Sleep strategies

Allow 20 minutes

Listen to Audio 1, taken from a podcast where menopause doctor, Louise Newson, discusses strategies on how to get the best night's sleep with sleep expert, Kathryn Pinkham. Then answer the following questions:

1. Why may sleep hygiene measures be counterproductive?
2. How can sleep drive be increased?

Audio content is not available in this format.

Audio 1 You Are Feeling Sleeeepy: Kathryn Pinkham and Dr Louise Newson

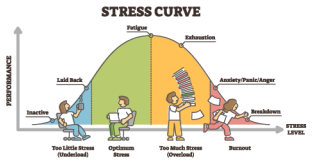
Discussion

Ironically, the focus on creating an environment conducive to sleep can start to make an issue of sleep and actually create anxiety around the activity. Going to bed can become a trigger for anxiety, making the problem worse. Spending time awake in bed is a real problem and may be helped by increasing sleep drive rather than sleep quantity. This is done by working out how much sleep you need and ensuring that you are tired and ready to sleep when you go to bed rather than creating a comfortable environment and hoping it will happen. A loss of sleep during the week cannot be effectively compensated for by having lie-ins at the weekend unfortunately.

If you have tried several interventions to improve sleep but to no avail it is worth speaking to a healthcare professional so they can consider more focused treatments. Sleep quality is so closely linked to mental health and during the menopause 95% of women said they had experienced changes to their mood and emotions since their perimenopause and menopause (Newson, 2023). The most commonly reported symptoms were stress and anxiety and you will go on now to consider stress.

5 Stress, menopause and mid-life

It is commonly accepted that in the twenty-first century, our lives have become more stressful as they are more complicated than they were for previous generations. There are many more demands on our time and our attention, not least from social media and the internet, and for many people fewer opportunities to do things that release stress, such as taking time for hobbies and relaxation, or spending time with loved ones and enjoying the stress-relieving benefits of close human connection.



People born in the 1960s and 1970s are part of the ‘sandwich generation’, caught between raising children, who are now mostly hormone-fuelled teenagers, and looking after parents who are becoming elderly. Along with work and home responsibilities, these demands sometimes mean that as the primary care givers, these people are stretched between different responsibilities and tend to neglect themselves in order to care for others.

And then along comes menopause, bringing the slow accumulation of the distressing symptoms, such as feeling unwell and experiencing hot flushes (which was explored in Sessions 1 and 2). These symptoms pile on to a person who is already living a stressful life, and because stress reduces the ability to cope, the menopause has an even greater impact.

5.1 Gender roles

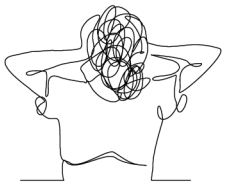
Unlike their parents and grandparents, many menopausal women may have lived their adult lives as modern women with the opportunities this brings, and also the expectations and pressures. This means they have taken the opportunities brought by the freeing of women from their traditional roles as wives and homemakers to work, earn and pursue self-realisation in a way that their forebears couldn’t have dreamed of. At the same time, however, research has shown that it is usually women who take on the lion’s share of the ‘domestic engineering’ involved in building a happy home and family life.

This builds stress not only because of the amount of time spent working, whether in jobs or at home, but also in the mental strain imposed by this kind of lifestyle. An individual might be stressed by a working role and the weight of responsibility for actions and decisions taken, while at the same time having to make a mental shopping list for that night’s dinner, wondering how to fit in taking an ageing parent to a hospital appointment, and worrying about whether their teenage child is being bullied, developing an eating disorder or experiencing exam stress. In addition, time to see friends may have been impossible to find, and lack of social interaction can cause feelings of isolation and stress. Add in the time constraints on every day, and many in menopause find they have no time for themselves. In this situation, stress builds and has no release mechanism.

5.2 Lifestyle

Lifestyle is also key to the experience of stress. We can become accustomed to rushing around all the time, constantly trying to pack many things into our days and always running late. Working roles that cover more than one function or spread to cover the work

of a colleague who has retired and hasn't been replaced mean more stress and sometimes longer working hours. Many people also work shifts, including the night working that we know plays havoc with our biochemistry.



At the same time, our home lives can be busier than they once were, with tangible stressors like children's activities to manage, but also the less tangible pressure of the intrusion of the apparently idyllic lives of others into our lives via social media, making some feel inadequate or inducing 'FOMO'. This can be hugely stressful.

And all the while, time is short, and we can suffer from inability to sleep well or simply not getting enough time to relax. It is relaxation that is the antidote to stress and without it stress builds up.

5.3 Environment

Our environment includes everything around us and within us affecting every part of our lives. We often think of our physical environment as that which is around us, such as our village, town or city, and more widely, the planet. But environment is much more than this. It is everything that we experience that finds its way past the barriers of our skin and consciousness.

On a macro level, our physical environment has become more stressful for our bodies due to factors like increased exposure to chemical toxins, more noise, greater crowding of our living spaces, and poorer air quality. While on a micro level, what we put into and onto our bodies, and our minds, is really important as well. Our food comes from poorer quality soil, we eat more processed food, we subject our bodies to alcohol, caffeine, and nicotine, and we use beauty and skincare products containing potentially harmful chemical substances that are absorbed through our skin. Also, many people will have spent two or more decades taking contraceptive medication, exposing their bodies to synthetic hormones that can interrupt the body's normal cycles and endocrine balance.

As indicated above, the mind is also subject to environmental factors. Our televisions are on more than ever, exposing us to often negative content, e.g. the news, that, even if we don't think we are paying attention, finds its way in. And then there's the 'information highway', the constant stream of random, fragmented, disconnected and often irrelevant information that pours into us through our smart phones and other devices. Our brains are not wired to handle this constant flow of information.

All of this stress is absorbed over the years into every cell of our bodies, where it causes ageing and makes us less resilient to further stress. And this can really come home to roost at menopause.

6 How stressed are you?

You may have heard of the Life Change Index Scale, developed in 1967 by Holmes and Rahe which ranks life events or situations according to how stressful they are for the individual experiencing them. According to this scale, the most stressful events are related to one's close personal relationships, so that coming top of the list is death of a spouse, scoring 100, followed by divorce (73) and marital separation (65). The scale is then developed to show the link between stress and the likelihood of illness, with an overall score of 300+ predicting an 80% chance of future illness. Even at a relatively low level of stress, with a score of less than 150, the chance of becoming ill in future is predicted at 30%. In Activity 2 you will look at the scale and assess your own stress level.

Activity 2 The life change index scale

Allow 10 minutes

Click on the link to access the Life Change Index Scale, complete the test and then add up your total.

Life change index scale

Discussion

You may have noticed that the menopause is not specifically mentioned. However, the scale does include items that might well affect you within menopause. If you were to tick the items related to personal illness, sexual difficulties, changes in relationship with spouse and in personal, sleeping and eating habits, and changes in work conditions (which might include the effects of the menopause on your comfort at work), this would add a total of 202 'Life Change Units' to your overall score. Add on a few other fairly normal life events, and your score can easily reach a level where stress is very likely to affect your health.

If you consider the menopause in this context. It is very common for those in perimenopause to feel that it has come from nowhere, that its effects are unpredictable and that they have no control over it or the effects on their bodies. Many feel that they have done nothing any different, but they don't even recognise or own their bodies any more. This can be a source of extreme stress. You'll learn about some ways to reduce this stress in the next section.

7 Reducing and managing stress

Everyone experiences and responds to stress differently and stress can come from different sources for each individual. What you find stressful will be hardly noticeable to someone else, and vice versa. And what helps you to relieve your stress will not work for someone else. So when it comes to reducing and managing your stress, there is no one-size-fits-all, however, there are some common approaches that can be helpful. You will be learning more about these in this section.

In deciding what might work best for you, try to ‘feel into it’. Look for those suggestions that attract you or make you feel good, without trying to rationalise it and without over-thinking.

Calming down your life

In menopause, it’s time to give your body, your mind, and your soul a break. And you can do this in small ways, but they are small ways that can add up to a big difference. We live in a world of constant busyness where time is always short and never enough, where we are bombarded all day long by ‘input’ to our bodies and minds – buy this, do that, look at this, listen to this, be better, and so on.

In reducing stress and the impact of it on our bodies, drawing boundaries can be fundamental. There are many things we can do to reduce what gets inside us and causes stress.

1. Stop scrolling on your phone. When you scroll, you are asking your brain to process potentially hundreds of snippets of random and incomplete information in different forms (still image, moving image, sound, words). This is extremely stressful. The information highway will continue on without you, and when you take the exit, you might realise it wasn’t the road that was going where you want to go anyway.
2. Prioritise. Overwhelm affects so many in our modern world and is a strong stressor. If you can’t do everything, identify what is important to you and do only that. If you like, at the end of each day, write down the three things (no more than three) that you will do tomorrow. When you get up in the morning, focus on those three things.
3. If you can, walk every day, preferably in nature. 20–30 minutes is good. Being outside, walking and breathing the air in green areas, among trees or near water has been shown to be very effective at reducing stress.
4. Find ways of reducing the number of things that you do. Could you do your shopping online rather than spending an hour or more at the supermarket?
5. Exercise with intensity several times a week. You will be looking at exercise in detail in Session 4. For now, though, try to add in 3–5 sessions per week of 20 minutes of exercise that makes you a bit sweaty and out of breath.
6. Schedule time – an hour – every day just for you. This might be time to rest or to do something that you find relaxing. Commit to it by writing it in your diary or daily schedule, and don’t skip it just because you’re busy or somebody else wants something from you. Time spent for yourself will pay dividends in terms of how you

show up in your own life for the things that matter to you, with the effects manifesting in your health, your function and your ability to be your best for others.

8 Summary of Session 3

In this session you saw how sleep can be affected by the changes in hormone but also how it is intimately linked to stress and the time of life when the menopause happens. The menopause happens at a time when women may be incredibly involved with their families, both their children and their parents, have a busy career and changes to their health. They may be experiencing stressful events such as their children leaving home or having unwell parents at the same time as experiencing distressing menopausal symptoms. The increased stress load can impact on sleep quality which in turn can increase stress load.

It is so important at this time that menopausal women have a strong support network around them and that their partners, families and friends have some appreciation of the pressures on them. This is another reason why the menopause must be considered as something people go through rather than being exclusive to women.

In this session, you considered:

- the effects of poor sleep
- why sleep can be problematic in the menopause
- sleep hygiene and what you can do to improve both the quantity and quality of your sleep the effects of stress, and why stress can be worse in menopause
- sources of stress in your life
- practical strategies to help reduce sources of stress and the impact it can have.

In Session 4 you will look at the positive roles that exercise and nutrition can play during the menopause.

Session 4 will also look at the effects of stress on the body during menopause. This includes considering how stress can be reduced and managed to help you to feel better, as well as protecting your body from the long-term effects of stress.

Now move on to Session 4.

Session 4: Exercise and the menopause

Introduction

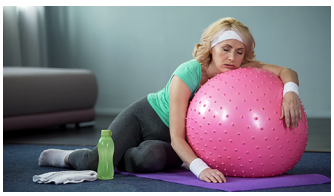
The perimenopause and menopause may not be stages of a person's life when they feel especially energised and motivated to either continue or start exercising. The symptoms associated with this period added to feelings of low self-esteem can make this time challenging; however, one positive thing that can be done is to exercise. This does not necessarily mean joining a gym, but it does mean finding some time and some way to exercise regularly. As you shall see in this session the benefits to physical and mental health are plentiful for the present, and being active at this stage of life helps to avoid stock piling health problems for the future.

By the end of this session, you should be able to:

- state the significant benefits of exercise during menopause
- understand the principles of the NEAT approach to exercise
- select the best type of exercise for you
- identify which types of exercise are important during the menopause.

1 Exercise – really?

For anybody in menopause, exercise can seem like a distant and possibly ridiculous dream. What? I can't sleep, I'm exhausted, I've got too much to do as it is, my body is out of control, I don't recognise myself in the mirror, my clothes feel horrible, I'm so hot all the time and everything just hurts! What's more, if I try to run, I pee! And you want me to exercise?



However, being physically active and moving our bodies is absolutely essential to our long-term health and to our quality of life. In addition, it can have huge benefits in menopause.

Exercise and health in menopause

Exercise has a particularly important role in menopause. Whether you are used to being active in your job, whether you take part in sport, or whether you haven't exercised for some time (perhaps many years), the menopause years are a time to pay special attention to incorporating exercise into your life. But many women become less active as they get older, even from as young as the teenage years, so that by the time they hit their mid-40s, they may not have exercised in any formal way for 30 years.

Exercise plays a big part in protecting menopausal bodies from the effects of declining oestrogen levels. As you have seen, oestrogen is not only involved in menstruation and reproduction. It also has significant benefits in terms of protecting our bones and cardiovascular health. Once oestrogen levels drop in menopause, this protective effect is lost, and we are then at significantly increased risk of both osteoporosis (loss of bone density) and cardiovascular disease. Activity 1 introduces the role of exercise and what exercise should be done.

Activity 1 The importance of exercise

Allow 10 minutes

Watch this short film, where menopause specialist Dr Louise Newson talks about the importance of exercise.

Video content is not available in this format.
Video 1 The importance of exercise

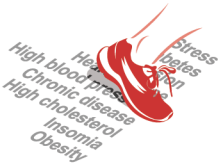
What are the main points that resonate with you from Dr Newson's ideas?

Discussion

There are some key ideas mentioned in Video 1:

1. Exercise has to be something that suits you and that you can fit in to your life.
2. Everyone is different and will like different kinds of exercise. Some people go to gym classes 3–4 times a week, but if you prefer doing your own yoga practice, that's absolutely fine too.
3. Exercise doesn't have to be what you might think. It can mean simply walking to work rather than driving or using public transport or walking up the stairs rather than using the lift or escalator.
4. Exercise is good for lots of things: muscular strength, fitness, and the health of our heart, bones and brain. Also, it is beneficial for our mental health.
5. Sometimes it can be hard to find the motivation to exercise, but if we make it part of our routine, it gets easier.

2 The benefits of exercise in perimenopause and menopause



Heart health

Cardiovascular disease is the biggest killer of women in their later years. It can affect heart health, resulting in an increased risk of heart attack. Regular exercise benefits the function and structure of the heart, which is a muscle, and also keeps the blood vessels that make up the circulatory system healthy. And what is good for the heart is also good for the brain, so improved cardiovascular health also reduces the risk of vascular dementia.

Bone health

You will probably have heard of the risk of osteoporosis (thinning of the bones) that affects women in particular as they reach menopause and beyond.

Osteoporosis is serious business! Bone thinning can happen from about the age of 35 (NHS, 2022), leading to a condition known as osteopenia (loss of the protein and mineral content of bone) in perimenopause. And as oestrogen levels fall sharply in menopause, osteoporosis sets in, causing the bones to become brittle and easily broken. Fractures can then occur much more easily than they would in young women, from simple trips and falls. The most common sites for such fractures are head of the femur (hip), spine and wrist. This is why women in their later years are so often to be seen in hospital A & E departments with broken wrists or hips. In a woman with severe osteoporosis, there have even been instances of spinal fracture occurring with the simple actions of bending over or coughing (Mayo Clinic, 2022).

So what are the risk factors for osteoporosis, other than menopause itself? The chances of developing osteoporosis are to a considerable extent impacted by genes. If an individual's mother has osteoporosis, then there is a 70% chance that they too will develop it in their later years. Other risk factors include early menopause (before the age of 45, either naturally occurring or as a result of a hysterectomy), amenorrhea (loss of periods) for more than 6 months, as a result of dieting, eating disorders or over-exercising, Body Mass Index below 19, smoking, heavy use of alcohol, and long-term use of steroid medications (often used to treat arthritis and asthma), and inactivity over an extended period (NHS, 2022).

The good news is that regular weight-bearing exercise has been clearly shown to improve both bone health, as impact on the bones and the effect of muscles pulling on them can significantly slow down the loss of bone mass linked to reduced levels of oestrogen.

Genitourinary health and the pelvic floor

Declining levels of oestrogen can cause thinning of the skin lining the bladder and urethra (the tube leading from your bladder that allows you to pass urine). This can lead to the

various types and levels of incontinence that are common in menopause and beyond. Urge incontinence refers to a sudden and (sometimes unstoppably!) urgent need to urinate and can occur when the bladder starts to become full. Stress incontinence occurs when pressure is put on the bladder, e.g. when we sneeze, laugh or cough, or when we move quickly or lift something heavy.

As well as these effects on the function of the bladder, declining oestrogen impacts on the strength of the pelvic floor. The pelvic floor consists of a sling of muscle that extends from the pubic bone to the base of the spine, working to keep the organs of the lower abdomen in place – the bladder, uterus and bowel. For those who have given birth, have suffered from chronic constipation or are overweight, the pelvic floor may already be weakened when they hit the menopause years. With the fall in oestrogen levels, the pelvic floor is further weakened.

So how can exercise help? Specific pelvic floor exercises are simple to do and, if performed regularly, can help enormously with stress and urge incontinence. The pelvic floor and pelvic floor exercises are explored in Activity 2.

Activity 2 Pelvic floor muscles

Allow 15 minutes

Watch the film where Baz Moffat from The Well HQ explains how to locate and then train the pelvic floor muscles. Then answer the following questions.

Video content is not available in this format.
Video 2 Pelvic floor muscles

Questions

1. How can you accurately locate your pelvic floor?
2. How often should you do pelvic floor exercises?

Discussion

You can locate your pelvic floor by squeezing the muscles that stop the flow of urine and those that stop you from breaking wind. It is important that you only stop the flow of urine while practicing as doing this regularly can lead to problems, such as a urinary tract infection. You should aim to do these exercises daily and perform 10 lifts slowly and then 10 lifts quickly.

General exercise and physical activity can also improve pelvic floor function, as any movement and in particular intra-abdominal pressure will stress the muscles of the core and pelvic floor, causing them to become stronger.

Mental health

Another benefit that is also widely acknowledged is the positive effect of exercise on mental health and everyday cognitive function (Lox *et al*., 2019). Among the most distressing symptoms suffered by women in menopause are low mood and even clinical depression, as well as difficulties with concentration and memory. Studies have shown that regular exercise can be as effective as medication in alleviating mood disorders and depression (Lox *et al*., 2019) and many women have reported that they feel mentally sharper and clearer if they can get some oxygen buzzing around their brain by including exercise and fresh air in their day.

3 Can exercise help with symptoms?

This is a difficult question to answer with certainty, with some studies saying that exercise has no direct impact on menopause symptoms. There is, however, a strong case for the indirect benefits of exercise on symptoms. In particular, Burrell *et al*. (2014) point to the effects of exercise in:

- protecting and improving pelvic floor function
- reducing the stress which can exacerbate symptoms of menopause
- helping with body composition and weight, by increasing muscle and reducing fat weight
- reducing anxiety and improving mood by giving your cells the 'happy hormones' – serotonin and dopamine – rather than adrenaline and cortisol
- supporting good sleep.

The benefits of exercise in menopause: a summary

In menopause, exercise can:

1. reduce the severity of menopause symptoms
2. reduce stress and, therefore, cortisol levels
3. support women in feeling more engaged with and in control of their bodies
4. improve mood and reduce anxiety
5. improve cognitive function
6. improve sleep patterns
7. improve self-esteem and confidence
8. help us to manage our weight
9. challenge the loss of muscle that occurs with age, keeping us strong
10. keep our joints mobile and our muscles flexible
11. protect our bones from the effects of osteoporosis
12. protect our cardiovascular health
13. protect brain health
14. help to strengthen the pelvic floor
15. improve a woman's prospects of getting through menopause to their later years in robust health.

(Burrell *et al*., 2014; Mayo Clinic, 2021)

4 Exercise vs physical activity

There is a tendency to lump together exercise and physical activity into one thing, a thing that involves getting sweaty and uncomfortable by going running or to the gym. The good news is that exercise and physical activity can be seen as different things, and neither has to be unpleasant. Both are important and beneficial to your health, albeit in different ways. Exercise doesn't have to be particularly structured, and it shouldn't be painful, uncomfortable, embarrassing or involve wearing clothes that make you squirm. And increased physical activity is easy to incorporate into your day and has a big pay-off that goes far beyond the investment of a little time and effort.

You will look at what kind of physical activity and exercise you could incorporate into your life later in this session.

A NEAT trick

NEAT is the secret formula to using your daily routine to increase your metabolic rate (Dolson, 2020), thus contributing to fat burning and making it easier to control unwanted menopausal weight gain.

So, what does NEAT mean?

NEAT stands for non-exercise activity thermogenesis. Basically, this is the energy we expend when we simply go about our everyday business, not including eating, sleeping, breathing and focused exercise. So, it can start with getting out of bed in the morning and accumulate throughout the day with walking for the bus to work, activity during your working day, using the stairs, going shopping, cleaning, housework, cooking, gardening etc. Even fidgeting contributes.

NEAT can burn up to 2000 calories per day, depending on the size of the individual (von Loeffelholz *et al*., 2022). However, NEAT can contribute significantly to our daily energy expenditure, and if we can expend more calories, this makes it easier to control our weight. The benefits go far beyond weight, though. The higher your NEAT, the less likely you are to suffer from metabolic syndrome (characterised by obesity and insulin resistance that can lead to type 2 diabetes), and the less your risk of cardiovascular events and death from all causes (Villablanca *et al*., 2015)

But what does this mean in menopause? As you have seen, in menopause you are more at risk of weight gain, increased body fat percentage (particularly around the mid-section) and declining cardiovascular health. But with the impact of NEAT, what you routinely do – or can add – during your days without even thinking too much about it has far more significance than you might suppose.

Increasing our NEAT is relatively easy, particularly once it becomes part of our everyday life. Here are a few things you could do if you are able:

- Challenge the sitting down culture (see below).
- When you are out and about, take the stairs instead of the lift or escalator.

- When you drive or use public transport to get somewhere, either park your car at the end of the car park away from where you are going or get off the bus a stop earlier and walk the last 10 minutes of your journey.

Standing up to sitting down

In the past 50 years, as car ownership has increased, occupations have become more office-based, and our homes are equipped with labour-saving devices, we have become much more sedentary. Instead of spending much of our day on our feet or doing manual work, as previous generations did, many of us now spend much of our day sitting down, either working at a desk or on a sofa in our leisure time (of which we have much more than did our parents and grandparents).

Sitting for long periods has been called ‘the new smoking’, as the health effects of a sedentary lifestyle can be as serious as a 20-a-day smoking habit, increasing the risk of obesity, type 2 diabetes, heart disease and cancer (Levine in Chandler, 2021). What’s more, chronic sitting has become far more common than smoking in many cultures!

When we spend much of our day sitting, our NEAT falls (standing can use up double the number of calories per hour as sitting), so we burn less energy (NASM, 2023). We lose muscle mass and tone, especially in our legs and core, as we lose what we don’t use. This in turn can lead to muscle weakness and back, shoulder and neck pain associated with poor posture, as well as joint stiffness and circulatory problems. And the consequences aren’t just physical. Not moving around can affect our mood and our ability to focus.

There are some easy ways that we can ‘stand up to a sitting down world’:

- If you sit a lot at work, use a stability ball instead of a chair or install a standing desk
- At work, go and talk to a co-worker rather than e-mailing them.
- Take an active lunch break. If you can, go for a 30-minute walk. Most of all, don’t just take your lunch out of your bag and eat at your desk. Instead, walk to the shop or canteen or, if you heat your lunch in the kitchen at your workplace, go for a walk while it’s heating up.
- If you have to sit, get up once an hour and do something else such as walk up and down a flight of stairs, go and get a cup of tea or coffee, fill up your water bottle at the water cooler, do 10 minutes of housework. This applies whether at work or relaxing at home in the evening.

5 Exercise and you

As we have seen there are significant benefits to exercising during the perimenopause and menopause, but it can be an effort and it is important that exercise is the right fit for you. In Activity 3 you will be offered some advice on how to choose the right exercise.

Activity 3 Exercise choices

Allow 10 minutes

Listen to Audio 1, taken from a podcast where Dr Louise Newson discusses exercise choice with Janette Cardy who is the founder of Janette Cardy Fitness.

What advice does Janette give about choosing exercise?

Audio content is not available in this format.

Audio 1 Exercise and the Menopause: Janette Cardy and Dr Louise Newson

Discussion

Janette discusses how if exercise feels like an effort, or you do not enjoy it, then it is probably not the right type of exercise for you. Exercise has to be enjoyable, or not too unpleasant, to ensure that it is repeated and that you look forward to it rather than finding ways to avoid it.

So, what are the best choices of exercise, and which are the most effective? Before you look at this you need to hear a note of caution.

Caution is needed for anyone starting a new exercise programme in adulthood, especially if they are over the age of 35 and haven't exercised for some time, or have any chronic health conditions, e.g. heart disease, arthritis, high blood pressure, type 1 or type 2 diabetes, or kidney disease. Also, symptoms such as shortness of breath, dizziness or light-headedness with exertion, pain or discomfort in the chest, neck, arms or jaw during physical activity, ankle swelling (especially at night), or lower leg pain when you walk which goes away with rest should be checked out by a doctor.

6 What kind of exercise should be done?

There is plenty of choice with regard to exercise, but the following 4 types of exercise are very important to mitigate the effects of the menopause.

Aerobic training

Cardiorespiratory exercise is important at all times of life, as it benefits and protects the health of the heart, lungs and circulatory system, as well as supporting good mental health and helping people to keep their weight stable. In menopause, it is important to do some aerobic exercise, but there are some important factors to take into consideration. Women who see themselves putting on weight in perimenopause are often tempted to go and do long duration aerobic training, such as long runs or working out on a cross-trainer for an hour, as they think this is the way to manage weight gain. However, this is not what the menopausal body needs. There are a number of problems with lengthy aerobic training sessions.

1. It depletes the body of energy and resources. This is not what a woman in menopause who may already be feeling tired needs.
2. Aerobic exercise can be catabolic, which means that it causes the body to decrease muscle mass. As has been seen previously in this course, sarcopenia, whereby muscle mass is lost, is a natural part of ageing, but one that it is important to challenge.
3. By potentially reducing lean body mass (i.e. muscle), long aerobic workouts can actually exacerbate gain in fat weight often experienced in menopause. Muscle is metabolically active, which means it burns calories even while you are asleep. If you reduce this lean mass, your metabolic rate (the rate at which you create energy) will reduce, so that fat weight can be gained even when caloric intake has not been increased.
4. It causes hunger and can increase the temptation to eat carbohydrates, which interfere with blood sugar balance and can aggravate the symptoms of menopause.

Taking all of this into account, while aerobic training is still important in menopause, sessions should be kept short (20–30 minutes at most). Indeed, a shorter exercise session at higher intensity is even better. This is why activities like HIIT classes, where the exerciser gets sweaty, out of breath and experiences significantly increased heart rate, may be helpful in menopause.

What is more important and helpful during menopause is strength or resistance training, and this should be prioritised.

Resistance training

Resistance, or weight, training has positive benefits on muscle strength, bone mass density, type 2 diabetes, fat accumulation, cardiovascular health and physical performance (Leite *et al.*, 2010). In particular resistance training helps protect against

osteoporosis and loss of muscle that can impact on function in daily life. Resistance training can take many forms other than gym-based training, and can include using resistance bands, body weight or water to provide resistance to work against.

Resistance training should focus on working the major muscle groups of the body in the legs, chest and back, as well as the smaller muscles in the shoulders, arms and calves. Resistance training should include exercises for the pelvic floor as well to decrease any issues with the thinning and weakening of these muscles.

Anyone new to resistance training should seek the advice of a fitness professional before starting training as it is easy to do the exercise wrong and get injured.

Impact training

Impact training may sound scary, but it is just training that send forces through bones. For example, walking, dancing and jumping are all types of impact training. This type of training is vital in the prevention of osteoporosis to stimulate both growth and bone maintenance in postmenopausal women (Binkley *et al*., 2021). The choice of impact, or weight bearing exercises, needs to take into account the individual's level of conditioning and their body mass. For people new to this type of exercise walking, marching, lunging and step ups would be appropriate (Daly *et al*., 2019).

Balance and coordination

Balance and coordination exercises can improve balance and stability and reduce the risk of falling (Dipietro *et al*., 2019). Improved balance can help to protect against osteoporotic fractures, particularly at the hip and wrist, that result from falls. Activities such as yoga, Tai Chi and Pilates are recommended with care being taken with people who have osteoporosis.

7 Summary of Session 4

In Session 4 you have explored the importance of exercise for many aspects of health and fitness that are impacted by falling levels of the hormones oestrogen, progesterone and testosterone. Loss of bone density and muscle mass can have devastating effects on strength and the ability to perform daily functions. The impact on the heart and circulation system can increase the risk of heart disease so exercising to lower blood pressure and keep the heart healthy is vital. Even the nervous system is affected as it is linked to the muscular system and performing balance training is important to keep the nervous system sharp so the risk of falling is minimised.

There is so much professional help available for people who want to exercise during their menopause, from fitness trainers and personal trainers to dance classes and yoga sessions. Finding enjoyable exercise sessions can help people through this period and add some quality to their lives.

In this session, you considered:

1. the significant benefits of exercise during menopause
2. the principles of the NEAT approach to exercise
3. how to select the best type of exercise for you
4. which types of exercise are important during the menopause.

Course summary

In this course you have assessed what happens during the menopause and explored its causes and symptoms. In particular you have looked at the impact of falling levels of the hormones oestrogen, progesterone and testosterone on the body and the physical and psychological symptoms that arise due to these reductions. You have also looked at the range of measures that can be taken to support people during their menopause.

Hopefully you now feel that you have enough knowledge to be able to confidently hold a conversation with other people about the menopause, and in particular those who are going through this stage of their life. Understanding what is happening during the menopause may make you more empathetic irrespective of whether it is something that you will experience yourself, and if you will go through the menopause then understanding the experience can help you to prepare for this stage and seek the support that you are likely to need.

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Video

Video 2: Introduction to the menopause © The Open University and its licensors

Week 2

Images

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Woman putting a plaster onto her abdomen. Photosomnia/Getty Images

Week 3

Text

Activity 2: Life Change Index Scale (The Stress Test) T.H.Holmes and T.H. Rahe. 'The Social Readjustment Rating Scale', Journal of Psychosomatic Research. 11:213, 1967 Life Change Index Scale (The Stress Test) https://www.dartmouth.edu/eap/library/lifechangestresstest.pdf courtesy Copyright © 2023 Trustees of Dartmouth College https://home.dartmouth.edu/

Images

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Audio/Video

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Week 4

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Audio/Video

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