What science doesn't know about menopause

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My physio, a young woman called Lucy, was simply making conversation. She wanted to distract me from the serious discomfort she was about to inflict by massaging the nerves around my painful posterior tibial tendon, an ankle injury I assumed I had brought on by running too much. "My mother's post tib has ruptured," she said. "It's really common in menopausal women." This definitely worked as a distraction. What did all this have to do with the menopause, I asked? She looked surprised, because to her the answer was obvious: "Collagen."

Suddenly something clicked, and not just in my ankle. For about a year, the skin on my hands had been peeling, monthly. I'd seen GPs and pharmacists and been given various remedies, from "try thick hand cream" to "drink more water". Lucy's comment made me research more: oestrogen is related to collagen production, and when oestrogen levels start to change in women who are in the stage approaching the menopause (the so-called perimenopause), all sorts can happen.

Perhaps I should have known this. I've already had one menopause. It was chemically induced as a treatment for my endometriosis, a condition where the cells that line the inside of the uterus (the endometrium) grow elsewhere in the body. I was given a course of injections of leuprorelin, a drug that blocks the production of oestrogen. Leuprorelin is not fussy: it can block testosterone in men and oestrogen in women, hence it's used to treat prostate cancer and chemically castrate paedophiles, as well as to calm down inflamed female pelvises.

"You may have some vasomotor symptoms," said my consultant, adding

that the whole thing wouldn't last more than six months. He was right about the first and wrong about the second. 'Vasomotor' refers to the constriction or dilation of blood vessels. In the case of the menopause, the results are hot flushes and night sweats. I remember sitting at posh dinners, pouring sweat and being thankful my dress was black. I carried a fan and deodorant at all times. I stank. My moods sank to alarming depths. I stopped sleeping.

I longed for it to stop. It did, once I finally went on hormone replacement therapy (HRT). I'm now 'naturally' in the perimenopause, the stage before the menopause that can last several years. But even though I'm postmenopausal and perimenopausal all at once, Lucy's comment made me realise that I still knew too little about hormones and the menopause. And in this, I was completely normal.

A few things science doesn't know about the menopause: what it's for, how it works and how best to treat it.

As a comprehensive review in Nature put it, "the functional lifespan of human ovaries is determined by a complex and yet largely unidentified set of genetic, hormonal and environmental factors". Also poorly understood is what happens when the ovaries begin to fail and hormone levels begin to fluctuate.

Perhaps we should be sympathetic to this ignorance. The menopause doesn't make much sense, biologically or intellectually. Humans are one of only three animal groups that we know of to experience it (the others are killer whales and short-finned pilot whales). As one recent book on primate ecology puts it: "Menopause is still considered a distinctly human trait." That we live so far beyond our reproductive usefulness is a puzzle that was answered, supposedly, by the 'grandmother hypothesis'. By this reasoning, human females live beyond their reproductive years because their presence benefits their children and grandchildren. One

aspect of this relates to the fact that humans are no longer well-designed to give birth, because walking upright and having a large brain has led to a pelvis size which makes giving birth standing up or without help extremely difficult. Older females, then, can be useful even when they are not producing offspring.

This idea was questioned by the ecologist and biologist Craig Packer, though by studying lions and baboons, not women. He found that the presence of post-reproductive females gave the animals no particular advantage: young lions and baboons with grandmothers fared as well as ones without. Another theory, that the menopause is a product of our longer modern lifespans (that we died so young, it didn't have chance to exist), is easily skewered. There are plenty of accounts of women living to a good age throughout history. The concept of the menopause, though, is modern: the phrase was invented in 1821, but it was only in the 20th century that the concept became dogma.

At least medical definitions seem clear on what the menopause is: a biological stage in a woman's life marked by the cessation of periods because of a reduction in the function of the ovaries. This seemingly straightforward statement conceals vast and mysterious depths. A female human is born with over a million eggs in her ovaries. Every month, she releases one, a process triggered by the release of hormones, including oestrogen. After the age of 40, the ovaries begin to secrete less oestrogen, and, in the wonderful understatement of the charity Women's Health Concern, this causes "the body to behave differently".

Oestrogen is involved in a range of bodily functions, and oestrogen receptors are found in cells throughout the body: the brain, the breasts, the bones, the belly. The hormonal fluctuations of the perimenopause and menopause are most famously involved in creating hot flushes, but they may also be linked to cognitive impairment ('brain fog'), irritable bowel, nausea, aching joints, cracking or peeling skin, depression,

vaginal atrophy and dryness, lowered libido, memory loss and sleep disorder, osteoporosis, and flat feet. This is not an exhaustive list, and some of it lies in the realm of internet forums and anecdote. But I can vouch for most of it.

Every woman's body reacts differently to changes in oestrogen levels, making a certain diagnosis of the menopause difficult. New guidelines from the National Institute for Health and Care Excellence (NICE) – an authoritative body that provides national guidance and advice to improve health and social care in England and Wales – warn against anything but observation for diagnosis: even the usual tactic of testing a woman's follicle-stimulating hormone (FSH) level is pointless, given how much FSH can fluctuate. In women aged 40–45, FSH tests can be done, but for nearly everyone else, the safest marker of the menopause is absence: the 'lost ovarian function' assumed if a woman hasn't had a period for 12 months. The perimenopause, which I'm in, can be diagnosed by erratic periods, perhaps vasomotor symptoms, and – this is purely a personal definition – the sense that things aren't quite right. That you are, biologically speaking, losing it.

Vaginal lubricant? Yes please. Physicool spray to calm down hot flushes? God, yes, even though my free tote bag is beginning to bulge. Isoflavones that supposedly balance oestrogen upheavals? OK, I'll have a few boxes. Why not? I'm already taking magnesium for the cognitive fog, vitamin D and the antidepressant citalopram for low moods, a herbal potion containing black cohosh and rhodiola for overall calming and balance, plus a multivitamin for good luck.

I was acting like a kid in a sweetshop, but I was in fact in the serious surroundings of the exhibitors' room at the British Menopause Society Annual Conference, held in a conference centre near Swindon. Unused to the glare or even interest of the press, the British Menopause Society treated my request to attend with puzzlement before accepting. I had

already attended the morning session in a hall packed with doctors, nurses and therapists and listened to presentations on premature ovarian failure, new and better drugs for endometriosis, and the risks of pulmonary embolism (changes in oestrogen levels can affect how the blood clots). There was a short yoga demonstration by delegates from the Indian Menopause Society – featuring the slogan "Add years to your life and life to your years" – during which suave consultants from Harley Street did sun salutations along with the rest of us.

I was there as a journalist, but also as a perimenopausal woman preparing herself. I took all the freebies I could because I want to be equipped for what's ahead. I learned a lot from the speakers: that cardiovascular disease is the most common cause of death in women, outstripping breast cancer tenfold (according to cardiologist Peter Collins), and that women can be prescribed remedies thoughtlessly and crassly. Psychosexual therapist Trudy Hannington described a woman who had been given a big tube of vaginal lubricant for dryness and an equally big recommended dose. "She followed the instruction," Hannington told the audience, "and reported back that she was squeaking."

The overwhelming message was consistent: a condition that personally affects half the population is woefully neglected. There is neither enough data nor enough drugs. The lack of attention paid to the menopause, and to women's health in general, has always made life difficult for anyone trying to care for menopausal women. In the early 2000s it became much harder.

In 2002, women who approached the medical profession for help with menopausal troubles were routinely prescribed HRT. The standard formulation for women who still had a uterus was a combination of oestrogen and a progestogen: either progesterone (derived from plants) or progestins (synthetic progestational agents which act like

progesterone). The oestrogen is to replace the body's falling levels and the progestogens to protect the endometrium: though the mechanism is unclear, adding oestrogen without a progestational agent increases the risk of endometrial cancer.

In the USA, the most common HRT was a blend of conjugated oestrogens sold under the brand name Premarin, short for pregnant mares' urine because it was derived from the urine of captive horses in North Dakota and Western Canada. By the mid-1970s, it was the fifth most prescribed drug in the country, and it's still the one of the largest-selling, most commercial HRT products in the USA. According to sales figures, in 2014 it was the 38th most prescribed branded drug in the USA.

Then the results of the Women's Health Initiative were published. The Initiative was a programme of research launched in 1991 throughout the USA. Between 1993 and 1998, 27,437 women aged 50 to 79 enrolled in the Initiative's hormone study. Of these, 16,608 women who had an intact uterus were in the study of oestrogen plus progestin and 10,739 without a uterus participated in the trial of oestrogen alone.

Compared to a placebo, the oestrogen and progestin HRT was shown to cause "increased risk of heart attack, increased risk of stroke, increased risk of blood clots, increased risk of breast cancer, reduced risk of colorectal cancer, fewer fractures [and] no protection against mild cognitive impairment and increased risk of dementia". The relative risk of getting breast cancer was given as 26 per cent. The results were so shocking that the study was stopped in 2002.

The press headlines were loud, immediate and everywhere. The Daily Mail, in 2002: "HRT linked to breast cancer". The Guardian: "HRT study cancelled over cancer and stroke fears". Some articles were better than others, but the worst ignored the fact that the oestrogen-only HRT

study was continuing. They also failed to distinguish between relative risk – the risk posed to the study group of women being given oestrogen and progestin relative to the risk posed to those being given a placebo – and excess risk, the actual increase in risk between the two groups. In fact, as the Women's Health Initiative researchers wrote in the Journal of the American Medical Association, in terms of breast cancer and stroke, the excess risk was just eight more strokes and eight more invasive breast cancers per 10,000 person-years.

The results of the UK-based Million Women Study, published in 2003, added to the alarm. Led by Oxford professor Dame Valerie Beral and funded partly by Cancer Research UK, the results seemed to show that breast cancer risk was doubled in women taking HRT. The study ascribed 20,000 cases of breast cancer per decade to HRT use, with 15,000 of those related to oestrogen-progestogen use.

In August 2003, the UK's Committee on Safety of Medicines circulated a letter to GPs and other health professionals telling them that long-term use of oestrogen and progestogen HRT was associated with "an increased incidence" of breast cancer. Although it recommended that "the results of the Million Women Study do not necessitate any urgent changes to women's treatment", it also said, in an accompanying patient information leaflet, that "the longer HRT is used, the higher the risk of breast cancer".

The effect of all this was profound. "Everyone stopped prescribing," says Julie Ayres, a doctor who runs a menopause clinic in Leeds, England. "They don't have time to read beyond headlines." Although a circular from the Committee on Safety of Medicines later that year repeated that short-term HRT was favourable for menopausal symptoms, HRT prescriptions still dropped by about 50 per cent in the UK between 2002 and 2006. In the USA, prescriptions of the two most common HRT brands, Premarin and Prempro, dropped from 61 million in 2001 to 21m

in 2004. Newspaper headlines bombarded women with the message that HRT was dangerous.

The bombarding must have worked: even when I was in great distress with my chemical menopause, losing days of work to insomnia and hot flushes, struggling with depression and not far from a breakdown, I resisted it. Somewhere in my head I thought 'breast cancer'. When I eventually did take HRT, after I couldn't stand the insomnia any more, it was magic. I could sleep and think straight again. But I still came off it as quickly as I could.

In 1948, the obstetrician Dame Josephine Barnes gave a series of talks on women's health on BBC radio covering ovaries, bleeding and hormonal changes. There was uproar. The head of the Home Service, wrote Jenni Murray in the Guardian, "spluttered [that] 'the inclusion of such a talk represents a lowering of broadcasting standards. It is acutely embarrassing to hear about hot flushes, diseases of the ovary and the possibility of womb removal transmitted… at two o'clock in the afternoon." Nearly 70 years on, one of the few safe places to talk about menopausal women is in humour, and not always the gentle type.

Comedian Jeff Allen: "My wife started the menopause. There are days when I lie in bed and dream of the good old days of PMS." Or, "I tell my boys, Mom's going through some stuff. The nights when you don't do your homework and she gets mad and yells at you, it's going to be a little different now. She might start crying and stab you."

A classic 'your mum' joke: "Your mum's so stupid, she thinks 'menopause' is a button on her iPad."

Joan Rivers: "Had a friend going through menopause come to lunch today. Her hot flush was so bad, it steam-cleaned my carpet."

According to a video interview on the excellent website healthtalk.org, a woman named Maria, who used to work on a supermarket check-out, felt she could do nothing but join in when male colleagues laughed at her sweats. "You get your blonde jokes, you get your menopause jokes," she says. There is also empowering humour on websites, fridge magnets and tea towels. "I don't have hot flushes. I have short, private vacations in the tropics." Or, "Real women don't have hot flushes, they have power surges." There is a successful feel-good menopause show called Menopause the Musical (including the number 'Stayin' Awake/Night Sweatin'') and plenty of blogs and sites urging women to embrace this positive change. I'm glad of all of it, though I'm not sure calling a hot flush a power surge is going to make them less distressing or smelly.

We can thank the French for at least having a word for this peculiar stage in a woman's life. 'Menopause' comes from ménèspausie, which in turn comes from Latin via Greek (mens, a month, and pausis, a pause) and simply means a cessation of the menses. I prefer the word 'climacteric', which is still used by medical professionals (and the title of one of the few dedicated journals on the menopause). Climacteric comes from the Greek for 'rung of a ladder' and means a critical stage or turning point. I like the dramatic sound of it, because, having had one menopause already, I know that it can feel dramatic: tragic and comic all at once. The word 'oestrogen', meanwhile, is derived from oestrus, a Greek word mostly translated as 'gadfly' or 'frenzy' (but sometimes as 'verve') and the suffix 'gen' ('producer of').

The biological fact of the menopause pre-dates this vocabulary. As Louise Foxcroft wrote in Hot Flushes, Cold Science: A history of the modern menopause, Aristotle, Galen and others knew that a woman stopped bleeding and lost her ability to reproduce. This change was thought to start at 50, though several sources, including the personal physician of Justinian I, state clearly that it can begin as early as 35, especially in those who are "very fat".

Foxcroft's history is a jolly escapade through the dreadful attempts by mostly male medical professionals to deal with the peculiar creature that is a woman who has lost her reproductive capacity and therefore – supposedly – her usefulness. The Victorian surgeon Lawson Tait thought that the solution to 'climacteric discomfort' was to lock women up. Mental illness was widely attributed to 'uterine trouble'. Throughout history, postmenopausal women have been variously considered sexless, shrewish, whorish, dangerous, hysterical and pointless.

At the British Menopause Society there was deep frustration about the impact of the Women's Health Initiative trials. Plenty of studies since have persuasively punctured the Initiative's findings – that HRT causes breast cancer – but have received little publicity. A special issue of Climacteric in 2012 re-examined the trials and their reception ten years on. Although lead author Robert Langer calls the trials "sound", there were problems: the average age of actual participants was 63, yet the findings were initially presented as pertaining to all menopausal women. A statement attributed to the then Acting Director of the Initiative Jacques Rossouw said that "the adverse effects of estrogen plus progestin applied to all women, irrespective of age, ethnicity, or prior disease status".

A paper released by the Women's Health Initiative (WHI) authors in 2013 repeated the message that had been lost in the breast cancer furore: that HRT is useful for managing the symptoms of some (probably younger) women, but that the "WHI trials do not support the use of this therapy for chronic disease prevention". Lead author Rossouw, who works for the Initiative's sponsor, the National Heart, Blood, and Lung Institute, said: "While the risk versus benefits profile for estrogen alone is positive for younger women, it's important to note that these data only pertain to the short-term use of hormone therapy." In fact, wrote Langer in Climacteric, "the WHI deserves credit for evaluating, and ultimately halting, what had become an increasingly common clinical practice of

prescribing menopausal hormone replacement therapy (HRT) for women well past menopause or at high risk of coronary heart disease, with the expectation of providing cardioprotection".

If the study were published afresh, the British Menopause Society wrote in a press release last year, "there would be far less impact on postmenopausal women today". It would be widely understood that prescribing HRT to perimenopausal, menopausal or recently postmenopausal women is far different to prescribing it to women ten years into the menopause.

Epidemiologist Samuel Shapiro was the lead author on a series of articles published in 2011 that questioned the methods of both the Million Women Study (MWS) and the Women's Health Initiative. A "properly designed cohort study", Shapiro and colleagues wrote in their article about the MWS, should have excluded breast cancers already present at the start of the study. In conclusion, they wrote: "HRT may or may not increase the risk of breast cancer, but the MWS did not establish that it does."

The reaction of Valerie Beral, the lead researcher on the Million Women Study, was unequivocal, claiming that their review of it was a "restatement of views held by many consultants to HRT manufacturers (as these authors are) attempting to dispute evidence about the adverse effects of HRT".

Shapiro and his coauthors say that their critiques were not funded by the pharmaceutical industry and were independent. The footnotes of their review of the Million Women Study confirm that the review was not commissioned and was peer-reviewed. The paper also says that all of the authors had consulted in the past with manufacturers of products discussed in the article (and that all but one were doing so at the time of publication). It's not uncommon for researchers working in this field to

have conflicts of interest, such as lecturing on behalf of and consulting for HRT manufacturers.

When I reached her by phone, Beral wouldn't comment on seismic changes in menopause research, such as the recently published NICE guidelines. "I haven't read them." But, in late 2015, when the media leapt on a small piece of unpublished research presented at a conference with headlines such as "Ignore health scares, HRT is safe, say scientists", Beral said on the Today programme and elsewhere what she said to me: "The effects of HRT have been extraordinarily well-studied. We do understand them very well. We know the effects on the ovaries, breasts, [of] thrombosis. We know that the risks start as soon as you start taking it. There's little doubt about it. People shouldn't use words like 'safe'; women should be explained what the risks are." (The research presented at the conference was not about cancer, said its author, Lila Nachtigall, who described British press coverage of it as "ridiculous".)

Where are we now? Go to the website of Cancer Research UK and you will be told: "The evidence that HRT can cause some types of cancer (breast, womb and ovarian) is strong." Go to the British Menopause Society website and its fact sheets will tell you the risk of cancer is "small" (breast) or "not high in statistical terms" (ovarian). Go to your GP and anything could happen.

Hannah Short is a trainee GP who set up the website Menopause UK in frustration at the confusing, poor information available not only to women, but to medical professionals. "The menopause wasn't in any of my textbooks," she told me during the British Menopause Society conference coffee break. She's heard of women going to one GP to be put on HRT, then going to another who takes them off it. She's heard of one GP who said that women just need to pull themselves together. She told me of a nurse who had gone through a surgical menopause who was treated as a hypochondriac when she complained her oestradiol

treatment wasn't working.

Most patients who end up in Julie Ayres' menopause clinic in Leeds arrive with preconceptions. "They say, 'I know there's a risk of breast cancer.'" But they're so desperate, they come anyway. "They come with palpitations, anxiety and panic attacks and think they're going crazy." They're not, but they are suffering from the wide-ranging power of oestrogen in the body. "As soon as they say they're having palpitations," says Ayres, "the GP won't prescribe HRT because of the cardiac risk."

This would infuriate some speakers at the British Menopause Society conference, where John Stevenson, a consultant metabolic physician at the Royal Brompton Hospital, presented research on the protective role that HRT can have on the heart. He is so convinced of the benefits he's prepared to prescribe HRT, because, according to him, it is "probably the best treatment for postmenopausal women, [though] sadly only one cardiologist seems to know this... If women come to see me who are at risk, I ask them if they've had a hot flush so I can prescribe HRT," he says. "If they say no, we turn the heating up."

It's a good joke, but he is deadly serious: "There is hard evidence of the protective effect of oestrogen for adverse cardiac events. There's no firm proof that HRT causes breast cancer." He is dismissive of the Women's Health Initiative study (and was one of Samuel Shapiro's coauthors on the series of critiques published in 2011). "They got the same dose of hormones no matter what age. Great for a 50-year-old, absolute poison for a 70-year-old. No-one in this room would do that."

The Daily Mail, which recently published a powerful and useful series on the menopause, often runs articles about 'bioidentical hormones', also known as bespoke HRT. Yehudi Gordon runs a bioidentical hormone clinic in Harley Street. He is slender, tanned and looks 20 years younger than his 73 years, and he is evangelical about the benefits of bioidentical

hormones.

They are better, he said when we met over coffee near his clinic, because the oestrogens are derived from plants such as yam and soy, and the progesterone is micronised (finely ground). Both these facts, he claims, mean bioidentical hormones are better processed by the human body than conventional preparations. He gives me a handout which explains further: the molecular structure of Premarin, it reads, "may bear some similarity to that of human hormones, [but] it has been altered". Other "branded and patented HRT consists of synthetic hormones that have a different molecular profile to those produced in the body".

With his bioidentical therapy, patients have blood taken and are prescribed a particular hormone combination according to their hormonal levels, which is made by a compounding pharmacy (one that can make up its own preparations). To listen to Gordon, you'd think he had found the holy grail.

It's persuasive. I leave almost tempted to make an appointment, despite the hefty private fees and cost of treatment (though Gordon says the HRT, daily, costs little more than a cappuccino). But other menopause specialists are circumspect. The bespoke preparations are prepared by a compounding pharmacy, but as Heather Currie wrote in an issue of Menopause Matters, "there are currently no controls or regulations on the production, prescribing or dosing of bioidentical hormones". In the USA, custom-compounded hormones, as they are known, are not regulated by the Food and Drug Administration.

"Bioidentical is just a brand," says Nick Panay, a leading gynaecologist. "We can tailor HRT too: it's the same stuff." Julie Ayres has tested oestrogen levels in women taking 'bespoke' hormones and found them to be far too high. "We can try combinations of oestrogens and progesterone," says Ayres. "We can prescribe bioidenticals. There are so

many types of HRT. It's great when we get it right. Women tell me they've got their life back. And I can't tell you how often I've heard, 'Thank you for taking me seriously.'"

I noticed a few months ago that my brain now hesitates, very slightly, when asked to choose between left and right. I'm dropping things more and being clumsy. For a whole day recently I was convinced that December followed October and was genuinely disturbed when I realised it didn't. I wrote a blog post recently that details some of these occurrences. Current ailments: jaw pain, dry eyes that make me feel like my eyeball is actually a hedgehog, poor sleep, constant tiredness. All can be linked to hormonal changes in my body. But am I ill? With all this talk of symptoms, you'd be forgiven for thinking so. Writers like Louise Foxcroft and Roy Porter have queried the medicalisation of something that is a natural and inevitable stage in women's lives. "Modern attitudes to the menopause," wrote Foxcroft, "arise directly out of a poisonous history of lack and loss, disease and decay." This view sees the menopause as just another biological stage, no more alarming than any other. Yet this position would be questioned by many clinicians and professionals working in the field, and many women in the midst of this life stage.

What's a menopausal woman to do? Perhaps, she must be patient, and become a patient. NICE is deciding which treatments are to be available on the NHS. In November it published official NHS clinical guidelines on the menopause for the first time ever. ("If you had a condition that affected all men," says Heather Currie, "it would be taken more seriously.")

The guidelines, which were out for consultation for six weeks, are both ground-breaking and cautious. They say that HRT "is a highly successful treatment for common symptoms of menopause", and that HRT with oestrogen alone "is associated with little or no change in the risk of

breast cancer". They add that oestrogen and progestogen can be associated with an increase in the risk of breast cancer, something that is acknowledged even by supporters of HRT: the ability of progestins to disrupt cell growth, though the mechanism is unclear, has long been known. Micronised progesterone, where the particles are smaller, is better tolerated than synthetic progestins, and has fewer side-effects.

When I took HRT it worked wonders for my hot flushes, but devastated my libido. Some practitioners think testosterone can help with lowered libido in women, although evidence is lacking. A transdermal testosterone patch aimed at women – brand name Intrinsa – was taken off the market in 2012, as were testosterone implants shortly after.

The NICE guidelines suggest that testosterone supplementation can be considered for menopausal women with "low sexual desire" if HRT alone is not doing the job. A footnote adds that as testosterone doesn't yet have a UK marketing authorisation for this use, the prescriber "should follow relevant professional guidance". In essence, as the psychosexual therapist Trudy Hannington made clear at the British Menopause Society conference, this means prescribing male-specific products judiciously. "We use a tenth of the male dose. One gynaecologist prescribed a whole tube a day and wondered why the woman developed black hairs and was jumping [up to] the ceiling." Hannah Short has heard other doctors discussing female patients who have come to them. "They were so dismissive of normal symptoms." One woman who asked for testosterone was dismissed with, "She just wants a sex drive." Of course she did, and what's wrong with that?

The menopause is not monolithic. Reactions to it can vary widely across cultures and geography, and according to diet, lifestyle and fitness, as well as age. While UK websites cite that around 75 per cent of menopausal women report having hot flushes, the number of Japanese women having them is reported variously as low as one in ten or one in

eight. Yet when Margaret Rees, a gynaecologist and the Editor-in-Chief of Maturitas ("An international journal of midlife health and beyond") visited Japan, women told her they have flushes, they just don't talk about them. And there is cultural baggage around the menopause that can distort matters: while some depression is related to hormonal upheaval, some may be due to the disparaged position menopausal women believe they are in. In Rajput culture in India, wrote Foxcroft, the menopause can be seen as liberating, as women can remove their veils and mix more widely, including with men.

There is no doubt, however, that the population of women suffering symptoms is huge and under-served. You can glimpse this in certain studies, such as one from the Trade Union Congress which found that 45 per cent of safety representatives interviewed said their managers didn't recognise problems associated with the menopause. A study by Nuffield Health found that 72 per cent of women felt unsupported at work when menopausal, and that 10 per cent of women considered leaving their jobs as a result. A study by the University of Nottingham released in 2011 reported that nearly half of women found it difficult to cope with the menopause at work. Nearly a fifth thought it affected how their colleagues and managers perceived their competence.

According to Menopause UK, there are only 29 menopause clinics in the UK to serve the 13m women – a third of the female adult population – who have reached the menopause, are currently going through it or are postmenopausal (and may have ongoing symptoms). Coverage is inconsistent: of course, not every menopausal woman needs treatment, and still less a specialist clinic, but even so, the coverage is illogical. The North of England has two clinics for 2.5m women: the NHS in the Midlands and the East of England has seven. Most menopausal women go to their GP first, if they seek help at all. One retrospective study published in 2010 found that 18 per cent of women aged 45–64 consulted their GP for menopausal symptoms at least once throughout

1996. By 2005 this had dropped to 10 per cent. A 2012 study found that 60 per cent of women cope with their symptoms without any contact with healthcare professionals, preferring to get advice from friends, family and the internet. Yet 10 per cent live with symptoms for up to 12 years.

When I asked the people I interviewed what the most exciting research on the menopause is, they struggled to answer. Some, though, were hopeful of a new combined HRT drug that contains equine oestrogen and bazedoxifene, a selective oestrogen receptor modulator, that can modulate any damaging effects of oestrogen on uterus and breast tissue. "All useful studies were stopped in 2002" is Julie Ayres' take on it. The menopause, says Margaret Rees, "is not a disease, but it is an opportunity to address other issues in women's health". Not just bones and breasts, either. The NICE guidelines advise practitioners to "explain to menopausal women that the likelihood of HRT affecting their risk of dementia is still unknown".

I don't think the menopause is a disease either, but it's already affecting my health – you try writing about oestrogen receptors, endocrine pathways and endometrial cell division while battling perimenopausal brain fog. And if preparing for it requires medicalising it, then I will. Maybe. For now I'm preparing by running, keeping strong and eating well. I haven't yet given up coffee or alcohol, but that may change when the hot flushes begin again. And I will be heading for the menopause clinic as soon as my periods have stopped for good, perhaps before. But I'm still not sure if I'll take HRT. I want to protect my bones and heart, but the residual fear of cancer is still too deep, however debunked. I'd like to end on a positive note, one of clarity and conviction. But instead I'm just confused. And if that's the case for me, after months of reading, research and talking to experts, what chance of understanding does anyone else have?