Polycystic Ovarian Syndrome - Ref227

with Nitu Bajekal

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TRANSCRIPT

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Steven Bruce
I'm talking to Dr. Nitu Bajekal this evening, we're going to be talking about PCOS, which, of course, is polycystic ovarian syndrome or polycystic ovary syndrome. I'll find out later which one is the correct expression. And I was staggered looking through the material before we came on air to find out just how under diagnosed this is, and also the extent to which it might affect your male patients. So some interesting stuff for us to look forward to. In case you missed Nitu's previous broadcasts with us, she is an obs and gynae consultant at the Royal Free in London, at least she is until the end of this month. she's retiring this month, although she's still continuing in private practice. But she still works very closely with a lot of colleagues at the hospital there. And she is also one of the UK's few lifestyle medical practitioners, which means that she is somebody who turns to natural remedies more readily, perhaps, than she would turn to drugs or the knife. And I hope I've got that right. Nitu, it is really, really lovely to have you on the show again, and did I get that right, would that be fair to say that you turn to natural remedies?

Nitu Bajekal
Yes, that would be definitely fair to say. However, what I do want to make it very clear, is that I do believe that it's not one or the other. And so, you know, lifestyle medicine always applies to everybody. But whether you use Western medicine or not depends upon the condition. So I would never advise somebody who has a broken back who needs to go to see the surgeon that they should only do meditation, no. So I think it's really important to clarify that. Because there can be this misunderstanding that if you're somehow failing, if you take medications, or if you see a practitioner who's otherwise qualified in the so-called Western ways of medicine, but yes, you absolutely got it right. I have actually already retired from the NHS from the first of April. But after 30 years, with 30 joyful years I have to say, really, really loved every minute of it. And it was quite an emotional day when I sort of hung up my, you know, Wellington boots that we sometimes use, yeah, 30 years of sleepless nights as well, many sleepless nights. Thank you so much for coming.

Steven Bruce
Oh, entirely our pleasure. I've read Adam Kay's book. I mean, it's a very funny book. And of course, he was an obs and gynae or an obstetrician.

Nitu Bajekal
He was my trainee, actually.

Steven Bruce
Really? Well. I mean, I'm intrigued to hear what you say. Because I always think of doctors being in plastic Croc shoes, but in obstetrics, you need Wellington's right. Yes, he made that clear in some of the anecdotes in his book. Going back to what you said at the beginning there, I do find sometimes it's a bit disappointing how many people, not necessarily medics, but maybe members of the public feel that medicine has to fall into rigid categories, and there are no overlaps. Just as people think there's no overlap between chiropractic and osteopathy. And of course, there is.

Nitu Bajekal
I think that is more our fault rather than the public. Because we've sort of painted that picture that you know, you cannot do without every aspect of Western medicine and no other aspect of medicine actually

has a place over the years has been eroded. So I do think that we have quite a lot to take on, not as individuals, but as a profession. I think what has happened is, you're not taught about the various disciplines and so I've always loved it when you know, Rajiv, my husband is a spinal surgeon, is a back specialist, but he relies heavily on you know, chiropractors, osteopathy and things and sees that his patients really improve. It doesn't have to be that you don't have to go all the way with your knife. But there are some people who will need it. And that's what I think is lacking in training where you're not allowed to have this global view. We have a very narrow view, and somewhere we get lost and then don't know how to help people in a more holistic way. We do make a big difference. You know, don't get me wrong, and I haven't seen Adam Kay's, I think there was a TV series and things, but I've heard about it. Yeah, and I know a lot of my patients were upset generally, but banter and doctors, the way doctors used to speak was very much like that. And it has, I'm happy to say it has changed quite a lot. People are much more aware of the language to use. And I think part of that has to do with the number of women coming into the profession, allowing people to realise that it's not acceptable to make sweeping comments and things like that. But I think many of the things that he does mention have happened, I've seen them too.

Steven Bruce
Didn't think that anything he described going on on the wards was particularly untoward, he described some fairly grisly incidents. But of course, that happens in medicine, doesn't it? And I thought that, actually, it was a very good reflection and perhaps a good lesson to the public on how their obstetrician might be feeling at the end of a 120-hour week, or whatever it might be.

Nitu Bajekal
Yeah, definitely. I mean, nowadays, the hours are less but no doubt, I think our trainees do feel the pinch that they don't get the hours and hours of training that we did as a result of which they do feel, you know, slightly under confident for years and need support. But I think also, perspective isn't it, Steven, depends on who was actually listening and who is on the receiving brunt of those comments and things that doctors sometimes make, because we do know that sexism and racism is rife. The medical report that came out of Oxford, the epic, not the epic Oxford, the Oxford study, looked at the maternal mortality, and it was five times higher, that black women would die in childbirth, and you think lessons would have been learned, but the same thing happened again later and a year later. So we do know, medical journals do not, I think less than 1% of medical journal articles had even the word racism mentioned in it. You know, so I think Bartok Kar, one of the physicians wrote a lovely article during COVID. Because, you know, COVID was affecting disproportionately people of black and ethnic minority groups. Possibly, because many of us are immigrant, we work in front facing jobs, you know, whether supporters or doctors or nurses or, you know, in shops, and he wrote a lovely article, While All The Angels White, you know, after Muhammad Ali had said, Mom, why are all our angels white?

Steven Bruce
Yeah. What were the lessons that should have been drawn from that? Because if we look at COVID, you could say, well, actually black and ethnic minorities were affected, because of genetic predisposition, as well as other factors, I know. Why, in obstetrics, were black and ethnic minority women having worse outcomes?

Nitu Bajekal
So I think the genetics thing doesn't really hold out, because we didn't see the same deaths in African countries. So we know it's not genetics, what we do know is it's generations of socio-economic inequalities, housing inequalities. Also, you know, people from ethnic minorities often tend to live, you know, have more closer contact with older members of their family. So from the COVID point of view, that was what was happening, plus the jobs that they were doing. And for black women and Bangladeshi and Asian women having a worse outcome, probably was related to a few things, one of them being not taken seriously, being dismissed, even by doctors and nurses from the same background, simply because we have not been taught how presentations may occur. Also, there is this misconception which has come through from the slavery times that black women can withstand pain stronger, so the pain medications are often withheld. And so, you know, there's a whole series of reasons. But most of the time, it's to do with, you know, people not being taken seriously. And of course, then when you have language coming in as a problem, then it becomes even harder because when you don't speak the language, there's even a higher chance or if you look different, there's an even higher chance that your medical condition won't be taken seriously and it will be, you know, a pulmonary embolism or a placental abruption may be mistaken for just gastritis. I've seen a woman die with an ectopic pregnancy being sent away as gastroenteritis. And I suspect that her colour had a lot to do with it, this was several years ago. But yes, we don't want to go down that too much. We talk actually about this in my book. There's a whole chapter on it's not fair, because I felt somebody had to talk about it. Yes.

Steven Bruce
As you were saying that I was also wondering whether there is good evidence, isn't there, that women generally are not taken seriously in certain circumstances, cardiovascular problems is one well known area. But also perhaps, women may not be taken seriously when they're complaining of pain, for whatever reason.

Nitu Bajekal
So more women die of heart attacks than men. But they are in the slightly older age group and the post-menopausal age group and they present slightly differently. But this is often the problem, the research has often been done in certain groups. And so what happens is when a woman will present with unusual pain or unusual chest symptoms, because you haven't heard of the classic, you know, grasping your chest and you know, pain down your arm, and you're a woman, or you're slightly younger, you will often be sent away because you've not been taught that. And so that is what one needs to highlight is the presentations, it's like anemia. You know, one in five women have heavy periods, and one in five women all over the world suffer from depleted iron stores. But it always always amazes me how doctors would be investigating them or giving them iron infusions and things and not actually, the main reason is heavy periods. But then if you are brown or black, what happens is anemia is not so easily picked up by looking at somebody. So again, unless you do a full blood count, and do check your hemoglobin levels and iron stores, it will be missed and you will be sent away. So these are things that I just want people to be aware of every time they practice by asking questions, and actually just going that extra couple of minutes, just gives you a much better consultation and makes you feel that you've done your job at the end of the day.

Steven Bruce
Might be a rabbit hole we were going down. But as you've been talking, I've been thinking to myself, well, we osteopaths, chiropractors, physios, we deal with people in pain, women in pain, Black ethnic minority people in pain, we mustn't fall into the trap of being against their symptoms in any way. And I will just settle on one hobby horse of mine, which is that of women's heart attacks, you said that women don't necessarily have characteristic presentation with heart attacks. And people always bring this up on any first aid training I run. And of course, it's true that statistically, women might have different signs or symptoms to men. But I always emphasise that it doesn't matter because men and women can have any of the same symptoms. And if they present other symptoms, you've got to treat it seriously. The statistics are irrelevant when you're dealing with the person in front of you really.

Nitu Bajekal
And the same way, just like when we talk about, we're going to be talking about polycystic ovary syndrome. And we know that it's seen more often in certain groups, subgroups. But, you know, it doesn't mean to say that just because you happen to be black or Asian, or, you know, carry excess weight that you definitely have PCOS, it doesn't necessarily also follow that line. So, one has to always be very mindful of individualising, knowing the entire background, and then individualising it to that person. Because you're not necessarily a disease. And one of the things that I always say is, when you talk about somebody having a condition it's so important not to say, Oh, he's a diabetic or she's, you know, a cancer patient, no, you're much better off saying that somebody is living with or has the condition rather than, you know, has diabetes, you know, the person is much more, they're a father, they may be a parent, they may be a son, they may be a partner, they may be anything, so rather than just defining them by their medical condition, I think reduces. And I think doctors we have historically done that, maybe to protect ourselves, but doctors still become patients and, and we must remember that.

Steven Bruce
As you were saying, we mustn't think that because you're this ethnic group or that ethnic group or whatever, that something does or doesn't apply, but actually with polycystic ovary syndrome, actually, we can't rule out men either, but we'll come back to that, because that was a really fascinating bit of information I learned from this. But here I have a comment already from Christiane. And this is I think is a really telling comment, which I'm sure you will be able to elaborate on. She says in more than 25 years of treating, I don't remember one single patient telling me that they had PCOS. And I delve very thoroughly into medical histories, which probably sets the scene for what we're about to discuss, doesn't it, Nitu. So before you go on to that, I just want to say to the audience, we have got a number of slides behind this presentation. And we may or may not show those slides as we go through. But don't worry, because I will make the slide deck, a handout deck available to you afterwards. So you'll have all that information there for you to refer to later on. So having said that, Nitu, we've got to start off by finding out what polycystic ovary syndrome is, or is it ovarian syndrome? I've seen it written both ways.

Nitu Bajekal
Yes, it can be written both ways. The medics tend to favour polycystic ovary syndrome. But actually most of us will say polycystic ovarian syndrome, or PCOS. And some people will call it PCOD, which is Polycystic Ovarian disease. And especially in India, it's sort of differentiated into two into PCOS and PCOD. But there is no difference at all. A disease is the wrong term really, because this is usually like

tuberculosis, for example, you know, the cause, it's a single cause while a syndrome is, you know, got a number of possible theories and causes. And so you shouldn't really call polycystic ovary syndrome or PCOS a disease rather, it's a syndrome. And even the name itself is actually a misnomer, because there are no cysts in the ovaries. And it is not really a disease of the ovaries. And so, but we are stuck with that name. There was a lot of discussion in international meetings as to whether it should be called a metabolic reproductive syndrome, because it's such a close cousin of type two diabetes, and metabolic syndrome goes hand in hand with it. And so it was thought that the real terminology is metabolic reproductive syndrome. People felt that that was going to cause even more confusion. So we're back again at PCOS. So Steven, would you like me to go through the slides first, so that actually people have a background if somebody says that they actually haven't seen a single case in 25 years, given that between one in 10 to one and four people actually have PCOS? Maybe I should go through the slides for about 15, 20 minutes. And then take questions. What do you think?

Steven Bruce
Happy for you to go through that sequence. It would be kind if you'd allow questions as you're going through it. Can we bring up that image that you and I looked at earlier on of PCOS just so you can tell us what it is that's going on in the ovaries because that slide seems to suggest that there is an ovarian problem.

Nitu Bajekal
Yes. So you can see over here a uterus with the cervix, you know, that is peeping into the vagina, which is a muscular tube, the vagina opens out to the outside, which is the vulnerable area which is not shown here. One in two women actually don't know where their cervix is, which is really important because cervical cancer is a problem. And cervical screening has a poor uptake. So it's really important to know your body to know when things go wrong. And to know the different parts of your body. Here you can see the uterus with the two fallopian tubes fanning out and they have little flower shaped fimbrial ends at the end, which will then take the egg up into the fallopian tube and it travels to meet the sperm and halfway through the tube and then once the embryo is formed, it goes and settles in the lining of the uterus. Sometimes it sticks in the tube and that's known as ectopic pregnancy, which is the most common type, the tubal pregnancy but there are ectopic pregnancies elsewhere, but it can be life threatening if not picked up. Then you have these two egg baskets or ovaries and you're already born with the number of eggs. When you're conceived and then by the time you're 15, 20 weeks, you have several million eggs and then it keeps reducing so that by the time you're born, you're born with I think half a million or a million of eggs, of which every month several, once puberty starts, hundreds of eggs keep shedding and getting lost. So even if you are on hormonal contraception or having children, you don't save your eggs, that's the natural atrophic process unlike sperms which you know have a 72-day cycle. And so you have these follicles which will get selected. So imagine all these eggs already being there in a safe and one of them or a few of them get selected to start maturing and one of them has to win the race. And when it wins the race, around day 14, there's a trigger from the brain by luteinizing hormone, which then basically unlocks that little egg and it gets released. And then roughly two weeks later, when a pregnancy hasn't happened a menstrual cycle, a period starts. So a menstrual cycle lasts between 24 to 35 days. And usually, the egg lives for about 24 hours tends to occur two weeks before your next period. That's why the difference in the range between 24 to 35 days. And so when you have the safe full of eggs, and some of them being pulled out for, being selected, the chosen few and of which one becomes a chosen one

that sometimes can go awry because the function of the ovaries is affected in a condition which has been named polycystic ovary syndrome because the ovaries look a little bit bulky. Stein, Leventhal, they were the two gynaecologist that basically realised that when you take out a bit of the cervix, women who, in those days we didn't use the word those assigned female at birth, but whenever I use the word women, Steven, I just want to highlight that is anybody who has reproductive organs and who has been assigned female at birth. So those, if you bring that picture back again, that ovary on my right has got lots of follicles arranged just below the surface of the capsule in a pearl necklace or a rosary shaped, and those are immature, empty egg follicles that on ultrasound scan can appear between two to nine millimetres. There are very small cystic structures, but they're not true cysts. So they're not an ovarian cysts. They don't cause pain. They're not really officially meant to be called cysts. So they're not polycystic, they're little immature egg follicles that don't go to maturity because of the hormonal changes that are occurring in the body. So PCOS is actually a condition, an endocrine condition that affects the function of the ovaries, it's not causing any disease of the ovaries at all. And which is why when you correct the hormonal changes, you can actually improve the whole function and that's why we don't need to see these changes in the ovary to diagnose PCOS. So we can come to diagnosis in a minute. But basically, this is a typical picture of a bulky ovary that is producing excess androgens because of the signals having gone a bit awry, and when I say endocrine, it's the commonest endocrine condition. So forget type two diabetes, it's the commonest endocrine condition to affect women and those assigned female at birth of reproductive age. So basically from the ages of 12 to 50. PCOS is the commonest endocrine condition. And by endocrine, endocrine system is basically a system of complex organs and glands that release these chemical messengers, which are hormones. And they are so interesting because hormones tend to, in the vast majority of situations do that action in distant organs. So you know, you have the thyroid stimulating hormone, it'll work on your thyroid, you have the insulin that will work on your muscle cells and the rest of the body. You will have your oestrogen and progesterone hormones that will work on the uterus, but you know, hormones from the brain will actually act as the controller, the master controller from the hypothalamus and pituitary. So this endocrine system is so complex, and this is what gets affected in PCOS. Very much like type two diabetes. So it's an endocrine condition that is the commonest condition in women of reproductive age. And what makes it stand out is not only does it have metabolic symptoms, it also has psychological symptoms and it also has reproductive symptoms. So it's not actually a disease of the ovaries. And the reason we also now have even further proof, and PCOS is not a new thing. It's been I think Hippocrates has also mentioned it and we know that it had possibly some childbearing as well as survival advantages. And we know that the most common condition that affects of female Olympic athletes is PCOS. So it has gotten many factors that actually, you know, influenced the whole development of the condition.

Steven Bruce
You'd already said this was the most common dysfunction, is it more prevalent in athletes?

Nitu Bajekal
Athletes also have medical conditions. But the most common female gynaecological condition to affect Olympic athletes is PCOS. So it doesn't particularly favour them as such. But if they do have a condition, you know, they can also have things like orthorexia, and hypothalamic amenorrhea, because they don't have periods because they're exercising too much. But they also have found to have a higher incidence of PCOS. It's just a fun fact. But what I was trying to say is that this year, there's been a big study that

has just been published this year, the print paper came out last year, the preview paper. But basically 172 or 175,000 men in the UK were studied, and they had close links with relatives, daughters, or sisters or mothers with polycystic ovary syndrome. And they found that men had all the typical characteristics of PCOS, which included type two diabetes, increased circumference around the waist, metabolic syndrome, and linked to male pattern balding, as well as to other conditions. So basically, all the features that you would see in somebody with PCOS, other than the fact that you don't have the ovaries, is also being seen making us think that this is not a condition that starts in the ovaries. It is a condition that is actually an endocrine problem. It's a hormonal problem. And that needs to be sorted. And so if you keep working on trying to fix the ovaries, that's not going to help it, you got to fix the root cause, which is, you know, the main driver, looking for the main drivers of PCOS and we can talk about what causes PCOS and then go down that because those are all again rabbit holes where you could go down.

Steven Bruce
What's the favoured medical approach then to treat the ovaries?

Nitu Bajekal
I think the understanding is very patchy, Steven, because what happens is, so before we go into that, I just mention some of the most common symptoms, okay, some of the most common symptoms include missed periods or delayed periods or irregular periods. So somebody with that sort of history will see a gynaecologist. Okay, then a lot of diagnosis comes for the first time and somebody is trying to conceive and the number of patients I see who think it's completely normal not to have a period every month if they're not on hormonal medication is quite frightening because there's not enough education that periods have to happen every month if you're not on medication, unless you're pregnant or unless you started puberty or approaching menopause. So missed or irregular periods, you end up seeing a gynaecologist if you need fertility treatment, you would see a fertility specialist, if you have excess hair growth, you might go to a beautician, if you have acne, you may go to a dermatologist, if you have insulin resistance, you may go and see an endocrinologist. So, what happens is, nobody is joining the dots. So, this person is seeing so many different people because they don't know that all these conditions are all linked together, they may be seeing a psychiatrist, they may be seeing a therapist for anxiety and depression, they may be going to a sleep clinic for sleep apnea and snoring, you know, they may be going to a weight loss clinic. So, if somebody is not sitting back and looking at all these symptoms, there is now a puzzle and I can now join all these dots and I can complete the puzzle, the person is left having different treatments. So for the infertility, they will have ovarian, you know gonadotrophins and things like that, for the hair, they will have laser treatment, for acne they will have medications, for the periods they will have the pill, it goes on. So what I'm trying to say is that it's not that they treat the ovaries that each one is treating the individual symptoms rather than realising that this is a spectrum. This is a spectrum of a syndrome called polycystic ovarian syndrome. And until one actually jumps into what is the root cause of it, people are not going to get better. But historically, because it's been one of those conditions that most doctors don't feel comfortable because they don't know enough about it. What happens is patients get dismissed, they're told to go away. Don't worry if your periods are not coming. You're so lucky. You're saving on pads. I've had patients being told that, come back when you want to have a baby. So all these other symptoms that the person is going through is completely pushed aside. As if, you know, of course fertility is important, but it's not the be all and end all of all our lives. We do want to have a good quality of life, whether you want a baby or not in the future. So it's just those aspects are not addressed at all.

And so yes, you might end up treating the ovaries, you might end up treating the other symptoms, but not really realising that this is actually a continuum, a spectrum of a condition.

Steven Bruce
To me as though the person who should be picking up on all this, based on what you've said, and what you've described, is the endocrinologist who shouldn't just be treating the type two diabetes, he or she should be looking at this spectrum. But also, I imagine if a GP suspects PCOS, presumably they're going to refer to a gynaecologist.

Nitu Bajekal
Yes, they are referred to a gynaecologist and they're the wrong person. I personally think, so most patients don't reach the endocrinologist. Most patients never reach the endocrinologist. So you would see your doctor, your family doctor who might send you to a gynaecologist who may or may not understand the condition, or your GP themselves might decide that you know what, go away, lose some weight, come back when you've lost weight. Now, anybody who's ever tried to lose weight knows that it is easier said than done. And most people, every single study has shown that when your goal is to lose weight, you will almost always put it back by one or 2% of people. So that is the wrong sort of, so then what happens is, people often don't volunteer and don't go to see the doctor. So you have a whole lot of patients who have either been dismissed or who have been fat shamed, and do not then go and seek medical advice when they really should be seeking medical advice. And then they turn towards the natural wellness healers, where again, they get sucked into having 200 different types of supplements, most of which don't work, and some of them which are downright dangerous. So you can see that people end up spending a lot of money, because they haven't had the satisfactory answers. Yes, an endocrinologist definitely is usually the right person and will pick up things very quickly if they are interested in this area, but you have to be able to reach that person first, right?

Steven Bruce
One of the questions that's come in, Nitu, is from Wallace, who has asked if PCOS is commonly misdiagnosed, and I think you've made that clear, but I think also the statistics you shared earlier on is that it goes undiagnosed completely in over 70% of people with the condition, is that right?

Nitu Bajekal
Yes, there was one paper recently saying, can you over diagnose, that there is a danger of overdiagnosis. It's unlikely, there's always a danger of overdiagnosis with anything. But really, if you stick with criteria and you take a detailed history, then overdiagnosis is not really an issue. The main issue in PCOS is not misdiagnosis, it's just not being diagnosed. Three quarters of people never get a diagnosis considering that $8 billion was spent last year in pregnancy complications and in diabetic complications from people living with PCOS in the US. So it's huge, huge implication for the public. It's a public health issue, but it's just not been recognised. And that is why I think it's so important because right now, of course, everybody's talking about menopause and endometriosis and things like that. And it's good. We haven't had enough focused research on any women's health issues. We have some research but not enough. And PCOS has always been stigmatised. You see, it's when you have symptoms, like acne, adult acne and excess facial hair growth and body hair growth and carrying excess weight it becomes very stigmatised. So nobody wants to talk about it. Nobody wants to come out. No celebrity wants to come

out and say actually, I have to pluck my chin has every day for two hours. You know, nobody wants to say this, laser doesn't work for me. Or I'm really struggling with my weight because I have PCOS. And so until we actually make it okay to talk about these things and becomes, like your member mentioned, they haven't seen a single patient, I would very much doubt that they haven't seen somebody with PCOS. If they have seen people who are assigned female at birth, it's just that it doesn't get picked up.

Steven Bruce
Discussion so valuable for us because we could easily be the first contact practitioner who has the time and GPs don't have time, do they? Maybe we have the time to say, oh, hang on. There's this and this and this. Perhaps we should be referring to the right person to get this treated correctly. I have a question from Bob, I mean, you said this should be better known as metabolically productive syndrome. Would that apply to men as well? What's the best term for a man suffering this collection of signs and symptoms?

Nitu Bajekal
Metabolic syndrome for men is already there, because they have the raised triglycerides, you know, it applies to women as well. But women then who actually have the other constellation of features, the acne, the excess hair grow, don't fall into that metabolic syndrome. And metabolic syndrome is part of the constellation of symptoms which men can have. I don't think at this point of time they want to, it's just an observation that men also have these clinical symptoms, and they often have relatives who have PCOS. Previously, it was always considered that PCOS was a gynaecological condition. It was an ovarian problem. It isn't. It's an endocrine problem resulting in cardiovascular issues, diabetes, endometrial cancer, all the long term problems that people can have, plus, you know, excess weight and all the other problems that come with excess weight. Even without excess weight, all these complications can occur. But it gets much more compounded if you're carrying excess weight. And again, studies vary, some say between 40 to 60%, up to 70 to 80% of people with PCOS actually have excess weight. But it is possible that those who have PCOS, who are lean PCOS, as it's called, two or three out of 10 are falling into this group of lean PCOS, they don't even come forward because of the fact that it's always considered to be a condition of people carrying excess weight. So there's a lot of nuanced conversations that are happening here that, oh, just because you're slim you can't have PCOS. Oh, yes, you very much can. And that's why it's so important to look at all the criteria because the condition actually starts in your teenage years. It's just that it's not picked up because it's normalised. Oh, it's quite normal as a teenager not to have your periods. No, it's not. It's only in the first year that you may have, you know, your periods are unregulated, you're not having them regularly. But if you're going three months without a period at any point, or if you're having 45 day type cycles and things like that, one has to think, okay, what else is going on? We need to look at the other factors. And so the criteria are important. But in adolescence or in teenagers, you can't use ultrasound. Ultrasound is a no go area, you can do ultrasound for ovarian, other problems, you know, cause PCOS is a diagnosis of exclusion. I have to highlight that first, because you have to make sure that you're not missing however rare they may be, non-classic congenital adrenal hyperplasia, adrenal tumours, or ovarian tumours that are producing excess androgen hormones. So it's a diagnosis of exclusion. PCOS is a diagnosis of exclusion. But in adolescence, you don't use ultrasound, you use ultrasound only to rule out other conditions. But you need both the lab features or clinical features of androgen excess plus anovulation, which is missed on delayed periods. I know we haven't talked about the criteria, but that's one of the things that we have to be aware of, that teenagers have to be treated slightly differently.

Steven Bruce
So let's say, once we've listened to you for the full length of this program, and we become mini experts in the diagnosis of PCOS, if we osteopath, chiropractors, physios, if we were to refer back to a GP and say, I think this person has PCOS. First of all, we have a bit of a hurdle in that they might not take us as seriously as they would a fellow GP. But also, if we did that, would they actually take the condition seriously? How do we get them to refer to the right person? Are there NICE guidelines, which we could say, the patient meets these criteria, therefore, we need to apply NICE guidelines.

Nitu Bajekal
Yes. So there are NICE guidelines. But there are also the international guidelines that are, you know, they're from the Monash University in Australia, and they are from 2018, very good international guidelines that have delved into every single thing. So if you're patient, you think your patient has PCOS, first of all, empower the patient, direct them to resources that, you know, I think you may have this condition, but I'm not really sure so, go see your GP, but also educate yourself. So here are some resources. So you know, Verity for example, is a group which supports those living with PCOS, so they will go on to those and look at all their symptoms and their resources. In my book, I've got two pages of different organisations that people can lean into, so that they know that they can get help. Because as I said, that, although there are some classic features that are also non classic features, anxiety, depression, you know, feelings of suicide and all that. So, it's really important that if you suspect your patient has got PCOS, you do have to refer them, you do have to say, go and see your GP. But you also, I personally like to empower my patient. So whether it has been reading a book or whether you actually tell them go and look at the international guidelines, or go and look at Verity, and Verity is a good place to start. So you know, it's got a chat room as well. And from there, they can take it on. So your GP may or may not take you seriously because as I said, not all GPs are up to date with this sort of information. So that's why it's better to equip the patient with that information rather than relying on the doctors, see what happened with smoking and tobacco, you know, we knew that it caused cancer, but we, you know, smoked ourselves too, the same thing is happening with the current dietary habits, if you look at all the food that is available in hospitals, you know, you have a heart attack, and then you're given sausage and mash, or a bacon sandwich. And when we try to bring that up, what happens is they say, oh, people need choice. No, you don't give people this very same thing that has been medically proven to cause heart attacks. So they can go out to McDonald's and buy that stuff. You shouldn't be serving that in hospitals. So science is always is there, but doctors take a bit of time to catch up because they are living the same lives as our patients. We all live the same lives. So that is why it is so important that I would request all those listening that you tell your patient where they can get bona fide information, whether it's the Royal College of obs and gynae, whether it's my website, whether it is the NICE guidelines, whether it is the Monash University international guidelines for PCOS, you need to direct patients as well. So they can do some homework, you know, everybody takes on some responsibility for themselves.

Steven Bruce
Back 30 years, Nitu, to I suspect that you were like many other medical students who are maybe a bit longer in your in your medical education. Certainly, I was like this, every time I was taught about a new condition I thought I had it. So if we give patients all this information, is there a danger that they will all go away thinking they have PCOS?

Nitu Bajekal
Yes, they might. And then they read about it and say, oh, actually, I don't have this. I don't have this, I don't have it, simple. Or they might make an appointment to see their doctor who will say, okay, so why do you think you have this. And the key is, people often think that all doctors don't have the time. Actually, I disagree when you say GPs don't have the time, you know, 10 minutes is short. But if you actually spend time with your patient, fewer patients will come to you. And so you can then spend longer and longer, the problem is we don't necessarily spend the initial time with the patient. So then they come with a problem. So what I'm saying is that, yes, people may over diagnose, but at the end of the day, I think that's a small price to pay for not missing the three quarters of people with the condition. So if you empower people about breast cancer, yes, you might think every lump is a breast lump. But then when you read about how to examine your breasts, what are the risk factors, how to reduce breast cancer risk for yourself, then that person becomes more empowered. And yes, they will then seek help when they do have a lump because one in seven people will get a diagnosis of breast cancer in the UK. So that's not our job to worry about whether somebody is going to oh, well. You know, that's a tiny proportion. Most people actually don't do that.

Steven Bruce
Amy, I hope that what you've just heard, is going to put your mind at rest and will help you with your own patient. Because what Amy said was that, so she has a patient she thinks has PCOS. The GP refuses to acknowledge it as a possibility. So how can they encourage them to reconsider it? And who else can they refer to? Now all the resources that Nitu was mentioned so far, of course, we will share on the website later but also in the email I'll send out tomorrow, I will make sure you have a link to all the facilities that Nitu has mentioned and to the book. I was going to wave a copy of Nitu's book at you this evening but I can't get it, Nitu has got the big box of advanced publication books with. So this Living PCOS Free might be the idea or gift or suggestion for patients.

Nitu Bajekal
It was meant to be a book of about 100 pages, it's 470 pages. It's got all the references, a glossary, it's got all the resources that one wants, but the book is divided into four parts. And the reason we've done that in four parts, originally with my daughter who's a nutritionist, the first three parts, the first part is actually understanding the condition. The second part is, it's actually not only for people with PCOS, because the book is all about making informed health choices. The second part is all about making informed health choices and all the science behind the six lifestyle pillars, you know, sleep and stress and alcohol and smoking and eating plants, why it is important, what is the science that says, why is exercise, what kind of exercise, all that information is there in the second part, the third part goes into each symptom. So it's got lots of case studies, lots of myth busting, I have been with PCOS, or, you know, I think that I have oestrogen dominance. And so lots of words and terms that are bandied around in the social media world, I have tried to take and actually demystify them or debunk them. And we have real life case studies. And then the fourth part is, once you have all this knowledge, what do I do with it, you know, what do I do if my daughter or my daughter in law, or if I have PCOS, or if my patient has PCOS, the fourth part is all about the application of the various living PCOS free, so it's not that you're going to reverse your condition. But actually, you are learning how to manage and control the symptoms rather than PCOS controlling you. And we have a whole 21-day plan, as well, as you know, that involves affirmations, exercise, and recipes, there are about 14 recipes in there, that, you know, are really joyful

and great to eat. And great to enjoy and easy to cook, because I love cooking, and my daughter loves cooking. And we've kept it without, we've got pictures and things, but we kept it black and white, simply because of the fact that we want it to be accessible to everybody. And the cover was chosen very carefully to make it sort of neutral, but also, young people, and anybody should not feel stigmatised reading it on the underground or on the train or on a flight. So it's just to make it fun. And you know, to bring it to people that, it is okay to have a condition and then talk about it as well. But it's a big book, it's a deep dive.

Steven Bruce
And it's not available until the 28th, I think you said.

Nitu Bajekal
You can preorder it. It'll be on your doorstep in a couple of days.

Steven Bruce
Thank you. I mean, I have to say that my approach to that is that I would have a copy of that in all of my treatment rooms in my clinic, I would encourage all my practitioners to read it. And whenever a patient, primarily female, I'm assuming here, whenever a patient has the right symptoms, I would go, buy this book and read it and that will help inform you.

Nitu Bajekal
Absolutely. And we talk about things like period problems, so anybody with endometriosis, or fibroids, which we've talked about before Steven, they will find a lot of help with this, whether you're a man or a woman, if you have diabetes, or breast cancer, or bowel cancer, then there's so much part of this book that will actually make sense. So, really, I am hoping that I've addressed a lot of things because it's not that there's a separate way of living if you want to heal PCOS, there's not a separate way of living if you want to age better, or avoid dementia, or, you know, avoid diabetes or control your diabetes better, it's the same way of living. And that's why large chunks of the book are very relevant, we feel, for everybody, but I really wanted to dedicate it to all my patients and all people living with PCOS. And this is my own story. I don't have PCOS, I had premature ovarian insufficiency, at the age of 38. And despite being a trained obs and gynae doctor, ready to become a consultant, I did not know where to turn. I had no idea how and what to do at the age of 38 of helping myself. And so I felt if I was in that situation, I was highly educated, highly motivated, a gold medalist and I didn't know. I really have to think that I probably had the condition just so that I started exploring this world of lifestyle medicine because, you know, I was this excellent surgeon, doing robotic surgery. I was using medications, but I felt something was missing from from the toolbox. And I felt there had to be something more and it made me very upset and angry when I discovered that all this has already been discovered before. And nobody had bothered to tell us, you know, doctors, that this information was already there. But you know, it's never too late.

Steven Bruce
Nitu, I need to turn to some of the questions coming in here and there'll be a fairly random order, I'm afraid. Marion asked a question quite some time ago asking whether HRT can have an effect on an existing PCOS patient who's going through menopause. And if so, how? She says after a full hysterectomy, does HRT regulate symptoms and what are there any alternatives, please.

Nitu Bajekal
Okay, so there are no alternatives to HRT. As such, or hormonal therapy, if you're going to use menopause, HRT should always be standardised. It should be body identical, which is what is available on the NHS, which is usually a gel or a pump. Sometimes you can have a tablet, which is oestrogen, as long as you have your uterus you also need progesterone to protect the uterus from endometrial cancer or womb cancer. Today, a big study came out showing that if you carry excess weight you have double the risk of developing womb cancer, one in 36 women will get a diagnosis of womb cancer. So but HRT has to always be standardised, not bioidentical, not Ayurvedic, and also it should not be supplements in the form of, because there's nothing natural then in supplements. When you start putting soy into supplements, you should be eating the soy as soy milk, soy yoghurt, tofu, tempeh, edamame beans, that's how you should be eating it, not in the form of supplements. So there are very few supplements that are helpful, but HRT is only in the form of medical standardised drugs. It has no effect on PCOS. Or PCOS has no effect on it. But PCOS has an effect on menopause. Women who have PCOS seem to go through menopause a couple of years later, I have a whole chapter on menopause and PCOS in my book, they continue to have the worsening of cardiovascular markers. But actually, the good news is mortality rate doesn't increase because I think other women are catching up with their bad markers. So the mortality rate is the same. And things like excess hair growth will still continue but HRT is absolutely fine, whether you have PCOS or not if you need it, but you should be doing lifestyle along with it, which means that you should be moving your body regularly, exercising, eating lots of beans, lots of soy, minimally processed soy, you should be having lots of fruits and vegetables, nuts and seeds, basically a plant predominant, colourful diet. So all the other foods that you historically think, because of media, that is good for you, they should remain as treats. So ultra-processed foods, 60% of the British diet is now ultra-processed, highly processed foods, which often are animal derived. So we know that from all the big studies, the Global Burden of Disease study looking at 195 countries, that the two most important reasons why 11 million deaths could be prevented is if people ate more whole grains. So you know, brown rice, and quinoa and millet and things like that. Beans, and legumes. And of course, fruits and vegetables are a second subset. So we just know that there's so much evidence on all this, that we can't avoid looking at this information anymore, we will be doing ourselves a disservice and our patients a disservice. So yes for the HRT, I think I hope I answered that question. With Ayurvedic medications you have to be careful as to what you're prescribing, and whether they have steroids and things in them because not all of them are the authentic Ayurvedic medications and you need to have a deep knowledge of those. And yes, you don't have to be on HRT to have successful management of menopause. But I don't think that there are any robust studies to show that homoeopathy, Ayurvedic medications can actually heal the deficiency because hormone replacement is replacing a deficiency, right? In menopause, you have deficiency of oestrogen and progesterone. So your body gets used to it because we never evolved to live this long. We evolved to die at 35 after reproducing. So the fact that we are living this long, either our body manages to live without the hormones, but it's a deficiency. Anybody going through menopause has a deficient state of oestrogen and progesterone. Doesn't mean they have to take it. But you know, it's not like B12, where you have to take it. But if you do need HRT, it's safe.

Steven Bruce
Good. Thank you. What you've been talking quite a lot about the nutritional approach to lifestyle there, so I want to mention your daughter Rohini with whom you co-wrote that book Living PCOS Free and who we've talked about getting on this show actually because it will be fascinating.

Nitu Bajekal
She'll be fantastic. She's an amazing expert on PCOS.

Steven Bruce
But I've also had somebody send in an observation here saying that your daughter's Instagram is very interesting to follow if you're interested in food so what is her Instagram account?

Nitu Bajekal
Rohini Bajekal. Same as mine, like mine is Nitu Bajekal. Yeah, you can find us more than instagram, we are always posting, all the latest studies, recipes. Today I posted on the study showing the University of Bristol excess weight causing womb cancer, Rohini posts regularly on various things, on whether you should be having zinc, how to get zinc in your diet, if you're a man, how to improve your sperm quality, all kinds, her website is fabulous as well. So I think it's worth looking at that.

Steven Bruce
And your contact details and her contact details and Twitter accounts and Instagram accounts are all on the handout that we will give people after the show.

Nitu Bajekal
Yeah absolutely.

Steven Bruce
Amanda says although this is a slight detour, just very briefly, where did your daughter train as a nutritionist?

Nitu Bajekal
Oh, in the UK, so she did her MSc from Huddersfield and did her MA from Oxford and went to India for two years where she realised that her passion was nutrition. So she then returned to do her MSc and now she runs all the webinars. I don't know if y'all are aware of plant-based health professionals. They are the first health professional group and they have laypeople as well. But they have a huge webinar every second week, where they have speakers from all over the world giving them all the latest science and for really a very cheap membership, something like 25 pounds, so Rohini runs all those webinars every two weeks for them.

Steven Bruce
Right. Okay.

Nitu Bajekal
And she's also lifestyle, so both of us, our lifestyle medicine professionals, I'm a lifestyle medicine physician. So we are board certified, which means the American College of Lifestyle Medicine, I was actually the first gynaecologist in the UK. And Rajiv was the first orthopaedic surgeon, we're the first cohort in the UK to do the exam. And then the following year, Rohini took it as well. So she, when she sees the client, it's not just, like you all, it's holistic. So it's not just looking at nutrition, she looks at their

sleep pattern, their exercise, their stress and so she's got a lot of expertise with cancer and things like that as well.

Steven Bruce
And also, what comes out of that is that first of all, you don't have to be a allopathic medical practitioner, if I can use that term in order to be a lifestyle practitioner. And I remember way back to probably our first or our second show with either you or with your husband, Rajiv. One of you saying that, actually that lifestyle medical certification exam was the most terrifying one you've been through, was the most difficult.

Nitu Bajekal
Yes.

Steven Bruce
So this is not a tick box exercise. It's a serious recommendation.

Nitu Bajekal
It was and I would encourage everybody to do that or do the Winchester University plant based nutrition course, which is also recognised by, so you can start off by going into the British Society of Lifestyle Medicine, BSLM is a good place to start. And then you can look at the membership there and the examination, Rob Lawson is very helpful. And it's not just doctors. So it's really good to, you know, because sometimes if you just have only medics it tends to become very boring.

Steven Bruce
I'm sure. I turn back to drug interventions. Vlad always sends in complicated questions. Does myo-inositol help with PCOS? And should men take it? Or is it contraindicated for men?

Nitu Bajekal
So we don't have the research for men as far as I know. myo-inositol is essentially, inositol hexaphosphate is found abundantly in whole grains and beans. Okay, so we know one of the reasons why PCOS does so well and diabetes, type two diabetes does so well with a plant-based diet is because it has all these micronutrients. And one of those is inositol hexaphosphate. And so from that, we know that Metformin, which is sometimes used in PCOS and is used in diabetes, also works by improving insulin sensitivity through this inositol pathway. And so from that was myo-inositol and D-chiro and folic acid. And the studies have shown it's cheap, still not completely authorised, but because it's cheap and safe. It's safe. Sorry, it's safe and it's cheap. It's not unreasonable to prescribe it to women, for three to six months to see whether it will improve their ovulation and reduce their androgen levels. But if you just use it in my experience, always lifestyle has to be brought in first, it usually makes all the changes. And then if you need it, you then bring in the myo-inositol and the D-chiro to bring it in. And then in a tiny group of people Metformin, because half the patients, half the people living with PCOS by the age of 40, if they carry excess weight will have become type two diabetic. That's how strong the genetic background is. And we haven't yet talked about what causes PCOS. But we'll take some more questions and hopefully, you know, we'll get around to that. So but for men, I'm not aware of any studies really, that have looked deeply into myo-inositol, even for women, we do know that it does reduce androgen levels,

improves insulin levels, and improves ovulation rates but for men, no, I don't, at least I'm not aware of it. And I'm quite sure that there isn't.

Steven Bruce
Okay. So Carrie, you've done a question about Metformin. Hopefully that's answered your question. If not, then please follow up with more detail. But also, you're bringing up something which I've only become aware of in the last couple of years, which is the role insulin plays in so many things. And traditionally, we've always thought of it as being diabetes, but it has a whole range of impacts across the whole spectrum, doesn't it? I wanted to just touch on the psychological components of PCOS, if we could, Nitu, because we're very keen to talk about the bio-psychosocial-model. And of course, psychological components will affect how our patients with what we think is simple back pain or whatever else may respond. What is the range of psychological effects of PCOS?

Nitu Bajekal
So, we know that those with PCOS have a range of symptoms. The mental health symptoms can range from anxiety to depression, they can be moderate. And about half the people with PCOS can suffer with anxiety and depression, they can also have higher risk of suicide, they can have OCD, they can have excess androgen levels that can increase the risk of binge eating disorders. So binge eating disorders where they may eat food, but actually not purge can often be a problem. So anorexia and bulimia are smaller components, but they have more of the bingeing without the purging. And so what happens is that even if you recommend a plant based diet without taking due consideration of psychological symptoms in PCOS, you can be doing your patient a great deal of harm, because what happens is often when you're living in a larger body, and somebody tells you go away and lose weight, when all you're actually doing is you actually have got an eating disorder, nobody's addressed that. So behavioural strategies tend to be the key for making any change with PCOS. That should be the first thing and all international guidelines will tell you that lifestyle and behavioural strategies have to be the first line of management, before you even look at the pain before you know which can be very helpful with many clinical symptoms. And Metformin is not even, you know, really authorised, it is off label prescription and helps only a small percentage of people. So behavioural strategies have to be implicated and have to be brought in. But if, as I said, if you don't actually recognise that your patient is having it, asking some key questions, you know, about how do you feel about yourself? And you know, there are some scores that one can ask, some very typical questions as to how do you feel in yourself? How have you felt over the last two weeks? How many times have you felt in the last two weeks, taking a little bit of time and about looking at the food diary and how they approach food as well, you know, because that is important. So when you realise that then just telling somebody to go away and lose weight is going to be the wrong answer for them, because they're never going to come back to you. Right? So psychological symptoms play a huge role. Plus, what happens is there's a stress of having acne when everybody else seems around, you're not having adult cystic acne, which is often on your chin, on your cheeks, on your neck, and you can have excess hair growth and that can make you feel very conscious as well because, you know, in a society where people sort of seem to adore having no hair on your face or body and all these sort of things that are very social constructs become very difficult for people so that adds stress and then that adds anxiety and so then you don't socialise and one of the lifestyle pillars is community and social network. So then you're hiding away in your room, scrolling on Instagram, looking at all these people and having negative thoughts. So it's a very vicious circle. On top of that you can have sleep disturbances,

so often snoring, sleep apnea, sleep disturbances, psychosexual dysfunction, not wanting to take part in sexual activity, because you feel, you know, body image is a problem, but even outside that, so you can see that there are so many aspects that can really affect somebody with PCOS, as a result of which they then start reaching out for the wrong sort of foods, and then comes in the binge eating disorders. Can you see, so it becomes a vicious cycle. And unless that cycle is broken with behavioural strategy, and with lifestyle, one can't really by throwing myo-inositols or Metformin, or any medication is not going to sort it out, you have to address the root cause. And the root cause, of course, in vast majority is insulin resistance. And I'm assuming that your audience already understand what insulin resistance is, or should I explain what it is?

Steven Bruce
I think we can assume that they understand that if they don't, I'm sure they'll tell me but I think it's fairly widely known.

Nitu Bajekal
Because insulin resistance, the other important thing is that insulin and the insulin levels rise, the reason why it affects PCOS so much is that it also stimulates insulin like growth factors and stimulate higher levels of androgen levels so the androgen levels rise. And one of the key factors or criteria for diagnosing PCOS is increased androgen levels. Testosterone is one of the most well-known of the androgens, there are many androgens, so insulin increases androgen levels, and it suppresses sex hormone binding globulin that is produced by the liver. So you have this situation where then the presence of insulin resistance, you have excess weight, you have increased hair growth and acne. And that's why sometimes losing a small amount of weight can actually help to normalise the insulin levels and then normalise these androgen levels.

Steven Bruce
Well, I think I could benefit from excess hair growth. But apart from that the other symptoms I wouldn't want.

Nitu Bajekal
You don't want excess hair growth.

Steven Bruce
What are the other symptoms you mentioned is infertility earlier on. And I had a question long ago from Bonza who said does infertility affect men in the same way from the same reason? But also infertility of course will have a drastic effect on many people's stress and anxiety levels, I imagine.

Nitu Bajekal
Yes, absolutely. You're very, very right. In fact, PCOS is the commonest cause of infertility in women. Okay, so that's first of all important to understand. PCOS causes infertility by anovulation which means, remember that first lot of symptoms I talked about, irregular periods or missed periods or delayed periods, they're caused because you're not releasing an egg regularly. And that is anovulation, so not releasing an egg regularly. And so infertility or sub fertility occurs because you're not releasing an egg often enough, so it's not having a chance to meet the sperm and for you to get pregnant. And so you can actually treat

this and so you know, whether you want to have egg freezing whether you want to have IVF, whatever needs to be done can be offered to people with PCOS. But it is the commonest cause of infertility and often for the first time diagnosed, like endometriosis, often the first time of diagnosis when somebody's trying for the baby because all this time, they've either been told go away, come back when you want when you want a baby or actually don't worry, these symptoms are not, you're not dying.

Steven Bruce
Thank you for that. A couple of people have apparently asked, what happens to a patient with PCOS when they have a full hysterectomy. So given that you've said this is not a problem, a disease of the ovaries, what is the effect of a hysterectomy?

Nitu Bajekal
Nothing, I mean, you'll still continue to have insulin resistance, because insulin resistance is dependent upon your genetics, upon your weight and about, also we now know that there are a lot of gene and chromosomal defects. And many people with PCOS actually don't even produce the insulin hormone in the right way. So production itself is defective. So having a hysterectomy, as I said, it's not a disease of the ovaries, so makes no difference.

Steven Bruce
Yeah. Miore's asked whether actually underactive thyroid could be a precursor to PCOS.

Nitu Bajekal
No, it's not a precursor, but it's often associated. So we do want to make sure because again, it's an endocrine issue. I would want my patients to be checked out for any thyroid dysfunction and vitamin D deficiency as well because we know vitamin D deficiency goes quite closely in hand with PCOS. And so vitamin D supplementation and Omega three supplementation, algae derived Omega three, walnuts, chia seeds, these things are important because we know that all of the long term studies are not there for omega three, but for vitamin D, it is there. So chromium, again not such a good strong studies, helps more in type two diabetes. But it's important to know about vitamin D. And the interesting thing was that, again, a very, very big study, 1000s, 33,000 maybe, I don't know how many 1000 patients were surveyed in GP practices. And a big study came out during COVID, saying that there was something like a 45% or so increased risk of catching COVID If you had PCOS. And of course, nobody put them in a high risk category. And then there's still a 26% increased risk of getting COVID if you have PCOS, even after you've taken out type two diabetes, metabolic syndrome. So irrespective of not even having excess weight, you are still at a higher chance of getting COVID and getting sicker with COVID. So see, if you don't know these things, what happens is, you're not going to advise your patient, are you?

Steven Bruce
Absolutely. Vitamin D than one of the supplements that you would recommend taking in tablet form?

Nitu Bajekal
Yes, I would recommend vitamin D, it's actually a hormone, it's not a vitamin, it's important to know that and vitamin D, I would recommend for anybody above the age of 50, like B12, you should be taking it. Anybody who has spent a lot of time indoors. People in the winter months in this country, even if you

have white skin, if you have black or brown skin, if you're a person of colour, I would recommend taking vitamin D. If you're not taking vitamin D, get your levels checked. Because you'd be surprised, virtually I don't see any patient in my clinic who has got normal levels of vitamin D, not one, you know, and I see a range of my patients. So I think it's either worth getting your levels checked, or taking supplementation because foods are not good. Yes, you can expose your mushrooms for a couple of hours between 12 and three, and they do make a lot of vitamin D. But mushrooms are better off eaten to reduce the risk of breast cancer rather than for vitamin D. Similarly, eggs have a little amount of vitamin D, but not enough. So sunshine, if you're lucky enough. And if you are going out in the sun, ideally between 12 and three, and the skin, dermatologists have done a better job than the vitamin D fracture guys, but basically, expose your arms and the back of your neck and the back of your legs for about 15 minutes and then put on your sunscreen. So if you have white skin and otherwise 30 to 45 minutes if you have darker skin, because we apply the sunscreen then you're not going to get those uvb lights and also through conservative windows and things that sunshine doesn't count. It gets cut out.

Steven Bruce
You won't be surprised. You're not the only person who has been on this show advocating vitamin D supplementation. And in fact, some other speakers I've asked him about which dose is the safe dose. And there's pretty much no unsafe maximum on vitamin D, is there. The national guidelines are actually very small and should probably be exceeded by a factor of three or four.

Nitu Bajekal
Yeah, but you can get vitamin D toxicity. I have seen that. So I would say that if you're taking larger doses, anything more than 2000 international units, it should be under the supervision of a doctor, but otherwise 2000, 1000 to 2000 international units throughout the winter months. And as I said, if you are a person of colour throughout the year, or if you're working indoors, then it's important to take that with the largest meal of the day, it's important to take it with the largest meal of your day.

Steven Bruce
Okay, you metnioned early on that people with PCOS were more susceptible to COVID-19. And Wallace has asked whether people with PCOS should have the vaccine, which I know is a thorny area to get into because people have strong opinions one way or the other about the vaccine, but what's your opinion?

Nitu Bajekal
So, I don't do opinions actually, Steven, I just follow the science. Okay. I'm not interested in opinions. It's like, you know, I think the earth is flat. Well, you know, that's my opinion. But the fact is that the Earth is round. And we know it. So yeah, I train in India. Vaccines save lives. As far as I'm concerned. There is no doubt in my head that I would follow what the experts would say and I would definitely take the vaccine. I myself have taken the vaccines there. I've been asking all my patients, all the studies have shown that it doesn't affect fertility, doesn't affect pregnancy. I've had so many patients go through all this and the truth is that yes, if somebody chooses not to take a vaccine, that's fine. You know, we live in high income countries, and you want to expose yourself to a virus that can be pretty nasty with long COVID. That's different. I've seen patients who have gone, you know, been left blind, I've had so many patients whose partners have gone into hospital and never come out. And so they've never had closure. And these are not necessarily only people from minority communities, they are from all communities. So COVID is a

very nasty condition in a virus that we don't still know everything about. And the vaccine, you know, always will win, hands down. There is literally, there's nothing to worry about vaccines. Yeah. So rare things can happen. But yeah, in somebody with PCOS, of course, I would strongly recommend that they have the vaccine. Definitely.

Steven Bruce
Yeah. And I think that was the thrust of the question. Is there any reason why PCOS sufferers should be more cautious than anyone else? Your answer is no.

Nitu Bajekal
Not for the vaccine. They should be more cautious when it comes to COVID. Yeah.

Steven Bruce
Yeah, Jillian's asked whether the physical symptoms have continuing effects after menopause.

Nitu Bajekal
Yes. And I said, I have a whole chapter on that in our book where we talked about menopause being delayed by two years, but acne and excess hair can still persist and some of the biochemical markers as well. And of course, then you have the longer-term complications that then raise their head during menopause, you see, endometrial cancer, womb cancer is the commonest cancer in women under the age of 35 are those with PCOS will get womb cancer, but cardiovascular disease and then type two diabetes by the time you're 40, and then pregnancy complications earlier on, miscarriages and preeclampsia, gestational diabetes and things.

Steven Bruce
And what about the link between PCOS and other gynae conditions? Pippa's asked whether there is a link with things such as endometriosis.

Nitu Bajekal
So the studies haven't really confirmed that. There has been one study to show that people with PCOS can be slightly at a higher risk of also having endometriosis. But logically and medically it makes sense because these are oestrogen dependent conditions, oestrogen fueled conditions, so they tend to get better in the menopause, as we just talked about. But when you have high levels of oestrogen in the reproductive age group, which are then fuelled with a standard British diet or standard Western diet, then it becomes even more likely that endometriosis will flare up or PCOS will flare up or fibroids. So fibroids we know are lumps of benign growths that get worse. Increased risk is seen in the presence of red meat, in the presence of fish and in the presence of excess body weight. Same thing with endometriosis, a Nurses Health Study, 175,000 nurses followed, red meat was a significant risk factor, just eating it I think once or twice a week even. And even chicken was, but not as highly significant. While citrus fruits and vegetables were all protective, whole grains and soya and things were protective and PCOS especially. So we do know that the more anti-inflammatory diet that you can eat, that means the more nuts and seeds and herbs and spices, beans, and you know, potatoes and sweet potatoes and fruits and vegetables you can pile on to your plate, then you will be doing yourself a favour.

Steven Bruce
Okay. Given this huge range of symptoms and potential complications you've spoken about, somebody has asked, I don't know who it is, CR is all the detail I've been given, whether there is a simple questionnaire that you use, or is there a list somewhere, we have the handouts I think of all the signs and symptoms we should be on the lookout for regarding PCOS.

Nitu Bajekal
I have it on one of my slides. Yes. And those are the sorts of things that one would be looking out for. And I also advise my patients to have made notes before they come and see me or see any doctor. So they have their medical notes with them. They've done a little bit of homework, you know, so that they can talk about their menstrual cycle. This can be very scary when you're sitting in the chair facing any health professional because you forget things. And so it's often helpful to write down things or have a friend even though the health profession might think God you're quite annoying. It actually is, you have to love your body best and nobody else cares about it as much as you do. And so you got to be heard. And so you got to make that effort to put all that information in that 10 minutes that you have so that you can get the maximum out of your consultation. So all the symptoms are there. They're there on my website, I have about three different fact sheets for PCOS or two fact sheets and one media article, I think on PCOS, lots of podcasts as well, I just did a big podcast for Simon Hill, who's got a huge podcast following So, and it was received well, so I talk about these things a lot as much as I can to try and reach people so that they can hear and help themselves.

Steven Bruce
And of course, at the risk of people think I'm on a commission, you know, you've just written a book, which has all of these guidelines in it. So that's a very good resource for people.

Nitu Bajekal
It is, the thing is that, you know, interestingly, the book is not really making any money. But what I want is to reach people. And that's why I thought I very much wanted my recipes to be in glossy pictures and things. But you know, the truth is, you want people to read it, and to actually bring about change in their lives. Because if you haven't even realised that your daughter or your partner, or you may have the condition, how are you going to help yourself, you got to have a starting point, which is why I felt that, but of course, the book's a deep dive, it is turned out to be bigger than it was but it is easy reading in many ways, except for a few chapters, which can be a little bit science heavy. But Rohini was very good. Because she would keep sending me back to the drawing board saying, Mom, you sound like a doctor, again, go back and stop talking medical jargon. And that's so important, because it's so easy to start talking in a way where patients either feel frightened or apprehensive or scared, or confused. And also, it is scary, nobody wants to hear that you're going to have a condition that you can never get rid of, or nobody wants to hear that you've got to do a lot of homework yourself. But there's no magic pill that's going to sort it out. But on the other hand, a lot of people do want to hear that, because they haven't had any success with the standard ways of managing themselves.

Steven Bruce
I think a lot of them will be very reassured to think that they can manage this without resorting to drugs. We could have talked a lot longer about natural health remedies and natural light. But we've done that on previous broadcasts.

Nitu Bajekal
Yeah, but also Steven, medication is important, even in PCOS, and just like it is in diabetes, not everybody can, like I know Rajiv has been on your thing, and my husband was diabetic, and he managed to completely put his diabetes in remission about four or five years ago, having tried every single diet and lifestyle until he decided that he would watch a documentary and not listen to what his wife had been telling him for 18 years. What I'm saying is that it doesn't matter, even if you have to take medication, you know, even if you have to have surgery to have that breast lump removed, or that bit of bowel removed. Still, lifestyle always has a role. When you go out to laugh and destress and walk and enjoy nature and sleep better and eat better and eat the joyful foods. There is no question that you're going to help your health whether you will need medication or not. It's not the question whether you don't need it, it's great, you might reduce the amount of medication you take, or you might live longer without that medication. But you know, it can go hand in hand, it doesn't have to be one or the other, it just doesn't.

Steven Bruce
Nitu, it's astonishing. Every time we speak the time seems to flash by and we've got five minutes left before we're due to finish. I've had a couple of related, age related questions from Jackie and from Beck. Beck has said can PCOS be evidence in people's teenage years? And could it be diagnosed? And Jackie has asked, if someone is diagnosed, say in their 40s, could they have had it for a lot longer than that? Or could that be the first instance?

Nitu Bajekal
Yes, we won't go into that because I've addressed each and every of these questions in separate chapters in the book, all about teenagers, what questions to ask, all about people in their 40s and in menopause, what question to ask if you think you've had these symptoms, and it's never been diagnosed. So all this information is there. It's all also on my website, you know, so yes, it is possible that you can have this condition and it's never been picked up. You've struggled a bit to have your children. You struggled a bit with insulin resistance or with acne or sometimes with weight. All these things, it has never been picked up. They've always been just under the radar. Nobody's talked about these things. So it's definitely possible and so it is important to highlight, but as I said, if you don't find one health professional who's willing to listen, it's your right to be listened to and find the right empathetic health professional because we are around. There are people who are willing to listen and try to help.

Steven Bruce
Well, if I may, one last question probably, it is a joint question really from two viewers, Miori and from Natalie. Natalie says is it altered adrenal levels that you look at to help diagnose PCOS? And if so, what levels? Miori says, what's the best way to diagnose it? Is it MRI or bloods? And what exactly are you looking for? And it's a syndrome. So it's a collection of clinical signs and symptoms.

Nitu Bajekal
What was the question, again? Sorry, Steven, just tell me the question again, because I couldn't hear, you cut out for a minute.

Steven Bruce
Sorry, Miori's asked, what is the best way to diagnose PCOS, is it MRI or bloods? And what exactly are you looking for? And Natalie has said, is it altered adrenal levels that you're looking for? And if so, what levels.

Nitu Bajekal
So you're looking at basically, whether the person is fulfilling three criteria. So you have the anovulation or oligoovulation. So missed or delayed periods, you have the androgen excess, which is either through lab levels, blood tests, so testosterone, free androgen index, sex hormone binding globulin, or clinical symptoms of excess hair growth and acne and an ultrasound. So two out of the three for adults, and the first two, so androgen excess and anovulation for teenagers, you need those, you don't need to do an MRI, you don't even need to do an ultrasound, but it's good for completion's sake that you do an ultrasound. But again, those are the standard criteria. They're there in the international guidelines, you know, easy to follow and adrenal tests and, you know, DHEAs and all that is again in subgroups. Because remember, PCOS is a diagnosis of exclusion. So if somebody has rapid hair growth in a few weeks, sudden increase in acne, change in voice, frontal loss of hair, anything that makes you think that this is such a rapid onset, they may have a tumour in their ovaries or in their adrenal glands. And so don't mess with that patient. But that is rare. I've seen maybe one or two in my life. So you know, common things happen commonly, but you have to be aware of the other.

Steven Bruce
Of course. Nitu, we had just under 500 people watching this evening, and many more will watch the recording, I'm sure. So, you as always are a very popular speaker. And I think for many people, it'll be a surprisingly popular topic, because I suspect a lot of men, male practitioners, perhaps are thinking what's PCOS got to do with me? Why am I thinking about this in clinic, but actually, this is a really important topic for us as first contact practitioners and people who hopefully will look at a broader spectrum of symptoms than GPs do.

Nitu Bajekal
Totally, and my website actually has, Steven, if you can put that, Nitu Bajekal.com, it has got 50 different factsheets, plus lots of stuff on lifestyle medicine, all free, you can download it, even scratch out my name, you can give it to everybody. I don't have a problem. It also got the PowerPoint presentations on various topics and podcasts and recipes and things that you can use. And I have no issues at all, I just want the information to get out there, so people can help themselves, help yourselves and your patients. That's all I want.

Steven Bruce
Thank you. Marion says she's just pre ordered your book, it's only 14 quid, and it's a must have. And I don't know the numbers. But I've been sent from one of the ladies monitoring them. Lots and lots of thank

yous for coming in. Everybody's absolutely loved listening to you. So Nitu, once again, in your retirement, thank you for giving up your time to be with us.

Nitu Bajekal
I'm still doing lots of clinical work. And I'm very happy to come back. And we can choose a completely different topic. We can do menopause, we can do screening, we can do breast cancer, we can talk about many, many topics. I love chatting with you.

Steven Bruce
It's brilliant. And I'd love to have you in the studio next time. It's always much, much easier doing these things face to face rather than over teams.

Nitu Bajekal
I loved it the first time I came, loved it.

Steven Bruce
Thank you so much, Nitu. That's it for this evening. And I hope we'll see you again soon. And thank you to Rohini as well for her contribution to the book and I hope to get her in the studio too

Nitu Bajekal
You will definitely get her, I'll tell her.

Steven Bruce
Thank you.

Nitu Bajekal
Good night.