Hypnotherapy for SIBO

with Dr. Peter Whorwell

Shivan Sarna: Hi, I'm Shivan Sarna and I'm here with Dr. Allison Siebecker, world renowned SIBO specialist. And we're in the next steps for treating tough SIBO masterclass summit. The next presentation, I promise you is going to blow your mind. It is evidence that hypnotherapy and sorry, I said it, hypnotherapy helps IBS patients. Dr. Peter Whorwell has proven it. And I can't wait to hear the story about how you found out about him. Dr. Siebecker.

Dr. Allison Siebecker: Oh, he has been a hero of mine for a very long time. Because he is one of a handful of researchers around the world that focuses on bloating, actually, he does research into bloating that is not easy to come by. I've been following his work for years. And the background is he had come up with an article a couple years ago that I was enamored with. And I wanted to hear more, so I wrote to him and asked if he would be willing to go on Dr. Michael Ruscio's podcast.

Dr. Ruscio is a friend and colleague of mine and I wanted to hear him interviewed about his work on bloating in this article. Dr. Whorwell goes on the podcast, talks about the article and goes on to talk all about how he uses hypnotherapy. I was so surprised and blown away. He has a lot of research, so I knew I wanted to have him speak about evidence based uses for hypnotherapy for IBS.

Shivan Sarna: Now what is the difference in it that we need to know between IBS and SIBO? Right, because someone at home might be thinking, "well, I have C but I don't have IBS, or do I wait, what?

Dr. Allison Siebecker: All the work of Dr. Pimentel and many others, is that up to 60 to 70% of people that have IBS actually have SIBO. The SIBO is the cause of their IBS. Whenever we see research on IBS and discussion on IBS, we know a good portion of those people are SIBO patients, not all of them. The majority will have SIBO so just keep that in mind as you're watching.

And I actually have a slide I want to share with you. That shows how all the points that Dr. Worrell shares about how hypnotherapy helps SIBO. So it can help the symptoms of bloating, pain, bowel movement irregularities, as well as anxiety and depression. It can address underlying causes of Sita like slow or dysfunctional motility. I mean, can you believe it? It's just extraordinary. And it's working with that whole brain and vagal picture, central processing, anterior cingulate cortex and insula and he uses the phrase if the couples maladaptive condition. You're hearing a lot of classes on that. And hypnotherapy is just generally supportive, it increases motility as well as the prokinetics described was actually studied against the pharmacological prokinetics cisapride and shown to work as well as it can you believe it? This would be an option if you find that you cannot tolerate, swallowing a prokinetic and overall he found it between 62-87%. People treated with hypnotherapy remain well for five years.

Shivan Sarna: You're blowing my mind.

Dr. Allison Siebecker: My mind was blown! Go ahead and watch this incredible class and have your mind blown too.

Dr. Peter Whorwell: Hello, my name is Peter Whorwell. And I'm going to talk to you today about functional gastrointestinal disorders focusing on irritable bowel syndrome and its management, and in particular, the use of hypnotherapy.

The functional gastrointestinal disorders are conditions where the function of the gut is abnormal rather than structure. And the commonest is irritable bowel syndrome, and then dysfunctional dyspepsia (where the symptoms are at the top end of the gut). We've got non-cardiac chest pain where the esophagus goes into spasm and causes pain like angina; biliary dyskinesia is where the bile system is abnormal and could cause symptoms like gallbladder disease. And then, we've got proctalgia fugax at the lower end where the anus goes into spasm and causes severe pain.

Now, irritable bowel syndrome is thought of as a bit of a nuisance rather than anything serious, not life-threatening, and is often dismissed as being largely psychological.

The symptoms or IBS are abdominal pain at any part of the abdomen, abdominal bloating or distension, and a disordered bowel habit, either diarrhea, constipation or alternation between the two.

Now, IBS is very common. And there are lots of patients where it's very mild. And they probably don't have to go see a doctor. And that's the problem, that most people are thought to be like that. But unfortunately, a lot of people get it much more severely.

And by the time they come to me, which is when they've gone through other doctors called *tertiary care*, the patient says the pain is extreme. And the women will often say it's just like labor pains, so we're talking really severe pain.

And then, in the diarrhea version, we get the urgency; and some of them are even incontinent.

In the constipation version, they can go for a week without moving their bowels or even longer. We see some people going for two or even three weeks without eliminating their bowels.

And they have exaggerated this gastro-colonic reflex which is a reflex that, when you eat, the food goes into the stomach, stimulates the colon, and you want to open your bowels. Now, that happens in normal people just in the morning, and then it wears off. But the trouble is, in IBS, it happens every time. They get into trouble every time they eat.

In the diarrhea group, they get diarrhea when they eat. And so they often become house-bound because they're having diarrhea every time they eat. And in the constipation variety, they're so afraid to eat because the pain is worse with this—but at least they can get out.

And then, there's bloating and distension which can be particularly severe I saw, a teenager actually who I saw some years ago now. And as you can see,

her tummy is enormous. And she's gone through all sorts of scans and scopes and things. And in fact, what was wrong with her was an irritable bowel.

And we show that sexual function is severely affected in patients with IBS with 80% of women saying sex is interfered with significantly.

And they get a range of other symptoms, and we call them *non-colonic symptoms*. They get nausea, they get chest pain. They get backache, usually low backache; feeling tired all the time, urinary symptoms such as urgency or frequency. And they get a range of gynecological symptoms. And possibly, the most intrusive is pain on intercourse. The proper name for that is *dyspareunia*.

So, you can imagine, with all the abdominal symptoms, and now these non-colonic symptoms, these non-colonic symptoms add a burden of their own.

And their diagnoses are really useful. So the more of these symptoms the patient has, the more likely they have irritable bowel syndrome.

And perhaps not surprisingly, these symptoms lead to the patients going to the wrong clinic. So with chest pain, they go to the heart doctor, et cetera. And we've looked at this and shown that gynecological clinics, urology, orthopedic, and even geriatric clinics, have these patients. And they have a poor outcome because they haven't gone through a urological problem or a gynecological problem. They've got IBS. And now they've had a lot of unnecessary investigation and sometimes unnecessary treatment. And in particular, the gyne because they'll have a laparoscopy, and then they might find a bit of cyst, and they do away with that. And so they can have a lot of unnecessary treatment as well as investigation.

And because of the severity of their symptoms, a lot of them are absent from work. And so they get a bad name for tending to be off work a lot.

And then, quality of life can be very poor. And this slide, the yellow line there, shows the IBS patients. And you can see, their scores are worse than more serious conditions such as diabetes, heart disease and renal disease. So these patients have got serious problems. They shouldn't be treated as trivial and psychological.

And then, we've looked at fecal incontinence in our clinic, looking at 500 consecutive patients who came to me in the clinic. And in the diarrhea group, 65% were incontinent; and then the ones who swing between the two extremes, 63%. And even the constipation patients have incontinence (sometimes due to laxatives, but sometimes spontaneously).

A quarter have not told anyone; and then half have told their doctor. And a lot of them carry a change of clothes. And a third even use incontinence pads on a regular basis.

And comedians talk about wind, but this is a big problem in IBS. Some of the patients don't have relationships because of their winds.

And they feel stigmatized because this is perception that is all in their head and is psychological. People don't take it seriously if they aren't off-work or if they aren't too severely in pain.

And then, we've got the notorious inadequacies of treatment. We haven't got really good treatments for this condition.

And so, this leads to a sense of hopelessness. A young female in her 20's, getting labor pains and is incontinent with no hope of getting any better, you can understand.

And we have seen some suicides over the years. And so, we looked at this in more detail comparing suicidal ideation in IBS and active ulcerative colitis from Crohn's disease so bad. And here, you can see the results that 38% of our patients have considered suicide, and 15% in the inflammatory bowel disease patients.

And attempted suicide is more common in IBS. And then, the depression scores aren't particularly high (10% is our cutoff). So they're not depressed. The reason they're suicidal is because their symptoms are so severe, and actually hopelessness can be associated with severe suicide just as much as depression.

So, how do we manage these patients? Well, we need to think about the underlying mechanisms—and that's called *pathophysiology*. And as you can see in the slides, it's multifactorial. So the motility of the gut, the muscles of the

gut, work abnormally. The lining of the gut is sensitive. The way the brain processes pain signals from the gut is slightly abnormal.

It runs in families, so there must be a genetic link. It's now been shown that inflammation can be a problem as these patients quite often start off with episodes of gastroenteritis. And we now know that the bacteria in these patients are abnormal. And this is called dysbiosis.

Diet plays an important part of this condition. And psychological factors are important. But I always put it at the bottom of the list whereas most people put it at the top of the list. And I think it's got to be in perspective that psychological factors affect *any* condition. So I don't think it's hugely important in IBS as people are being taught over the years.

So, how do we do that? So, we need to educate. We need to have an approach to treating this. There is no single standalone treatment. Education is key.

They need to understand how severe the pain can get or these non-colonic symptoms and how we can try and help.

They need to understand that we can try some dietary manipulation, but it's not all the [10:04].

We can try some medication. We give them support. We have a helpline. We have behavioral approaches, cognitive-behavioral therapists, psychotherapy and hypnotherapy.

And then, we can try other medications that aren't necessarily used in IBS.

And then, if we can't get them better that way, we still look after them. We don't discharge them. We keep an eye on them. They need to be taken care of.

So, what about education? It has to be a positive diagnosis. So many patients are being told "all the tests are negative, there's nothing wrong with you" or "all the tests are negative, it must be irritable bowel." And that's a negative way of selling the condition.

We say, "Look, you've got all these symptoms. They add up to IBS. We don't really need to do any tests." But if you want, if you're worrying about

gallbladder disease, we'll do something like that. But you have to warn them that that may be normal if it's irritable bowel.

They need to understand that the disorder is multifactorial. It's not one thing that's driving this.

They need to understand all these symptoms I've gone on about. And then, as I say, the role of investigation is just to exclude perhaps something that they're worrying about or you're worrying about as the doctor. But you need to set them up for a negative result because, otherwise, they'll think, "This test is going to find out what's really wrong with me."

And then, you tailor the treatment to the patient. And you have to explain what you can and cannot achieve. We can't cure you, but we can get you managing this condition.

And we follow them up until they're under some degree of control.

Now, as we've already heard, eating tends to make these people worse. And so they think that food is really important, "Oh, I've got a dietary allergy," and they want to talk about the role of food, and they usually want a dietitian.

So, how do I manage them from a dietary point of view? Well, when I was a young doctor, we were told just to give them cereal fiber. That's the answer. And that's been the default treatment for a long time. But I've always had my suspicions about it. And we did a study a long time ago now where it showed that, actually, 55% of patients on cereal fiber actually gets worse. So the default treatment made almost half of them worse, and not many of them a lot better.

So, if you must give fiber, the proprietary soluble fibers do a bit better and are worth trying. So, we give them a cereal fiber exclusion diet and see how they go for a few months.

Now, another thing in our study, patients are made worse by vegetables and fruit. And so, we've always told our patients to be careful with those.

But more recently, the FODMAP diet has appeared in the scene. And people are taking this concept more seriously now. And these are called *fermentable carbohydrates*. They're in a lot of foods.

These are examples of the FODMAPs. And they can cause problems in IBS. They're widely used in the food industry. And as we've told you, they can be carried on fruits and vegetables.

And there's just an example of high fructose foods in ascending order. And as you can see… a lot of commonly used fruits that are high in fructose.

And then the polyols are carried in fruits. And they're also used a lot as artificial sweeteners.

And that's what the FODMAP does. The FODMAP diet takes out items or food which have a high fermentable carbohydrate content.

Now, the trouble with vegetables, they've got fiber and FODMAPs. And certainly in the UK, we're encouraged to eat five a day—which is very good for northern people—but perhaps my IBS patients need to be a little bit more cautious about five a day.

Now, medications are very important in IBS. And that's not my brief today. So I'm not going to dwell on them other than just to mention them. We have the antispasmodics which are the first-line treatment and help, especially with the pain (but they don't help much with other symptoms).

Obviously, anti-diarrheals are important. People are always reluctant to take them, but they're not a problem. Particularly, loperamide is very safe to try.

And then, laxatives… and in the sorts of patients we see in my clinic, we have to give laxatives, and we have to give them long-term. And it's strange how so many patients are afraid of taking laxatives because they're told they'll damage the bowel or make it lazy. And that's simply not true. So we have to reassure patients, "You'll be so much better if you take your laxative. It'll keep your bowel cleared out."

And then, anti-depressants are very helpful in IBS. And patients are reluctant to take these because they think the doctor just thinks they're depressed. But actually, we've got the same nerve endings in our gut as we have in our end. And so, it's not surprising that anti-depressants work on the gut as well—unfortunately, for some of them, at much lower doses.

And then, things like acupuncture are worth trying. There's been a few studies. We did one probiotics, I'm not going to dwell on it because I'm sure you're going to hear a lot more about those from other speakers; and behavioral approaches. And the main ones are psychotherapy, cognitive behavioral therapy and hypnotherapy. But I'm going to concentrate now on hypnotherapy.

So, when I was a trainee in gastroenterology, IBS was just thought to have two things—motility (the patient has gotten into a spasm, it caused pain and funny bowels) and they were anxious. That's what we were told. They were just people whose motility is a bit off, then they're anxious.

Of course now we realize it's far more complicated than that. We shouldn't be writing them off as just anxious.

And then, about the same time I was training, I watched a documentary on the BBC television about hypnosis. I was really impressed how relaxation is an important part of hypnosis and also stress reduction. And so, to lower the key component of IBS, I thought, "Oh, this might do quite well."

So, I went to my boss and I said, "Should we do a study of hypnosis in IBS?" and he said, "Don't go near it. Everybody will think you're going crazy" because in those days, hypnotherapy was very frowned on. He said, "Don't go in there. You'll never get a job." And so, he said, "Wait until you become a consultant. And if you must do it, do it then."

And so that's what I did. I waited, got my job in Manchester, and then went off and learnt the technique.

But learning the technique is one thing; putting it into practice is another. And so, what I did then is I went to practice on anybody who would let me practice on them at the hospital. And I probably, I must've hypnotized over a hundred people. And that was really good because then we could chat at the end. And they could tell me what things they liked and what things they didn't like. And I got more and more skilled at it.

And when I felt I was reasonably competent with hypnosis, I set up a trial. And I used this little hypnotherapy package which I called *Gut Direct*, a gut-focused hypnosis. And it gives the patient a tutorial on IBS, so they now understand the pathophysiology. Because you're trying to normalize it, they

need to understand what you're aiming to normalize. And then, you can use tactile methods—hand on the tummy, feeling warmth and normalizing the function of their gut, or visualization, thinking their gut is a river, perhaps speeding it up or slowing it down or whatever. I give the sessions once a week. And then, I encourage the patient to practice daily with some form of recording.

Now, if you want scripts, I think you may have been given the scripts, but if you want scripts, there is a script in this paper that we've published which is open access. It gives you our protocol at the end. And the simpler way to get to it is just google "vasant & whorwell," and it'll take you to a link to the paper. Then you could click on a link on the paper to the script. It's one of my original scripts.

So, this is the study we did or I did right back in 1984. And as you can see here, we have two groups—the hypnotherapy and the control. And you can see the quality of life for the hypnotherapy group improved; whereas the control group, only a little bit. And their symptoms have improved. Their symptom scores got less obvious. And you can see that all the symptom scores improved very strongly and significantly.

Now, I think in retrospect, the study could be criticized because I was treating both groups. And really now, that would probably be unacceptable. But the funding was limited in those days, we had to work with what we had.

But in order to try and make the control group a bit more control, we also gave them a placebo tablet saying, "This will help with IBS as well." In all subsequent studies, we still give the placebo tablet. But we have a separate person do the control treatment so there could be no arguments about could I have not treated the controls quite so well.

And then, we carried on doing the hypnotherapy because it was successful. I recruited another therapist, and we carried on doing it through the years, about 10 years. We built up quite a waiting list actually. So what we thought we'd do is another study comparing the patients waiting for a hypnotherapy with those going through. So the controls were the waiting list, and the patient is going through.

So, this is the study before their treatment. This is the controls on the waiting list, and these are the patients. And as you can see, they're roughly

comparable. If anything, the patients are a little bit worse. And then, after treatment, you can see that the patients having done the therapy have done a lot better compared with those waiting to have hypnotherapy. And this is with the pain, the bloating and the bowel problems.

And then, all these non-colonic symptoms, which is really interesting, these are all improved—a few of them don't, but the majority improved which is really, really interesting because drugs don't seem to help the non-colonic symptoms.

The quality of life, the bars go the opposite way obviously. The score is getting better. And so, again, their quality of life is doing well.

And we noticed additional advantages. As I've sort of implied, quite a lot of these people are off-work because their symptoms are so severe. And a lot of them are going back to work, taking less time off work, more effective at work, and are consulting their GP's more often.

But what was interesting, you'd expect them not to consult with their GP's about IBS, but they don't consult them about other conditions.

And so, with this data, we were able to go to the NHS and put a business case together. And they gave us the money to set up a service with six therapists.

And so, after we treated the therapists who have treated 350 patients, we decided to do an audit. And we didn't select. These were all the patients who came to me to the unit. And here we are again… these are just the patients before and after treatments. There aren't really any controls. This is an audit really. And as you can see here, their symptoms, across the board, improved highly significantly.

And then, these non-colonic symptoms are even better resolved this time, probably mainly because it's a large group of patients. And as you can see there, all their non-colonic symptoms are improving as well. Quality of life… doing well.

And we looked at anxiety and depression. This is a score called the *HAD Score, hospital anxiety depression score*. And as you can see there, we've got some changes. As I've said before, 10 is the cut-off for anxiety or depression. These patients tend to be anxious, and we've reduced their scores and the

proportion. Anxiety fell a lot. Interestingly, for depression, not that high. But it fell even more than the normal range. Only a third had a score of above 10, and it reduced to much lower levels.

And then, even more recently, a few years ago now, we published another audit of a thousand consecutive patients. And as you can see, again, same results. So we're consistently getting these results of significant improvement in symptoms. Non-colonic symptoms and quality of life are all significantly improving.

And the summary of that is 76% of patients achieved a 50 point or more reduction in our IBS symptoms . This is a score we developed some time ago now, and is universally used in the IBS world. A 50-point reduction or more is regarded as useful to have.

If you break them down, females did a bit better than males—80% versus 60%.

And the FDA and the USA had their own outcome measure—30% or more reduction in pain. And if you use that one, then we get to 67% improvement.

And other groups have confirmed our results. But unfortunately, a lot of these studies get criticized because they say, "Well, they're not double blind." But you can't do a double blind trial in a behavioral treatment. So I think it's a bit silly how people say, "Well, you can't believe these trials because they're not double blind."

They all show roughly the same thing—sometimes, not quite as good outcomes as we get; and some, just as good.

Now, there's no point in getting these people improved if they don't stay improved. And so, we've looked at that. Here's the same data that we keep seeing before and after—and then, one year, two to three years, three to four years, four to five years, and more than five years. So they're staying better which is good because, otherwise, it'll be a waste of time if they just got worse again.

And the symptoms do the same. The symptoms stay improved. And the overall summary of this work is 83% of respondents are well up to five years.

And medications being reduced significantly there… over half are not taking any medications, and some of them taking them less often.

And again, the same consultation behavior—not consulting a GP or hospitals (but again, not about their IBS which is so interesting).

And then, long-term benefits, this is the Scandinavian group showing the same. They get long-term benefits.

And they looked at satisfaction with hypnotherapy and have shown a high proportion of satisfaction. But what was quite interesting was they even had satisfaction when their gastrointestinal symptoms didn't improve. So they had liked having hypnotherapy, and it helps them cope with their problem even if it doesn't improve the problem.

And we've looked at it a slightly different way. We call it the *patient's perception*. And this is what's called a *word map*. This is where you ask patients to think of a word to describe a situation. And the more a particular word is used, then the stronger the word is on the word map—they're larger, and they're darker, the typeface.

So, you can see here that, before treatment, it's skeptical, interesting, nervous, concerned, apprehensive. And then, after the treatment, a complete change—positive, relaxed, grateful, calm… so a massive change in the way they think about hypnosis after treatment.

And then, it's being used for children. And this is mainly the Amsterdam group. And it's exactly the same. This is the hypnotherapy group. Their pain scores are getting much better than the controls (which is standard medical treatment), the pain frequency reducing. And then their associated symptoms that I call non-colonic symptoms are doing better than standard medical treatment.

And so, the summary of this is 85% of children were responding compared to only 25% in the supportive therapy + usual care group.

And we just got a study accepted for publication which is an audit of 33 children referred to us. Now, I'm not a pediatrician, but we do get very difficult cases where they don't know what to do with them anymore. And in that

group of patients, we got an 88% response rate. So children seem to do a bit better.

And the Amsterdam group shows that it lasts just like it did with us.

And perhaps a little bit of a conjecture here… most adults will admit to GI symptoms in childhood. So if you say to a patient who says they've only had it since the age of 20, you say, "Have you never had anything before?", "Oh yes, I've always had a funny tummy. But it's never been a problem." So they've had that tendency to the condition.

And we know that the response rate to hypnotherapy tends to reduce with age. And these are the concept of the shorter the length of the illness, the better the response because, probably, it haven't had the chance to get what's called *illness behavior* building on.

And so if children respond better than adults, which I've already shown you, then that's a good thing. So you're getting them better before they start getting all the psychological components building up. Another advantage of treating children of course is that you can involve the parents. It's been shown that parental behavior can affect children with IBS and the way they react to the child in pain. And so you can help the parents as well.

So, I just think that, perhaps, if we could hypnotize a lot more children, we prevent these really severe cases perhaps in adults.

And then, there's group hypnotherapy that's been shown to have an effect. We've looked at that. And I think, in my opinion, it's good for milder patients. But the sort of really severe patients that we see, I think one-to-one hypnosis probably has the edge because those patients are so complicated.

Now, we see patients from all over the UK. And therefore, they had to travel a long way. And some of our patients even come from abroad. And so we thought, "Let's look at Skype because this would save them having to travel." And we've looked at the response rate. That's the response rate in our 1000-patient audit; and here's the Skype. So it's not that much, a little bit less. But it's certainly worth having.

So, Skype is a little less effective. But it's absolutely suitable for long-distance patients or patients that have diarrhea or have difficult traveling. And so we

are doing an awful lot of Skype (and especially during the CoVID epidemic. It was really good that I could continue on treating these people).

And for functional dyspepsia, which is sort of IBS at the top end really, it gives you abdominal pain, nausea, distension, sometimes nausea and vomiting. We looked at this. And we had three groups here—hypnotherapy, supportive treatment, and conventional treatment.

You can see the hypnotherapy was better than the two controls in the short-term and also in the long-term—if anything, a little bit more improvement with time. And we have seen that in our studies.

And if you look at the medication, the hypnotherapy group was able to stop medication; whereas the other two groups carried on. And again, the same consultation behavior with regard other conditions as well in GP practice and all that.

And then, I mentioned non-cardiac chest pain which is a tricky condition to treat because it's angina-like pain, but they don't have heart disease. But it's difficult to treat because every time they get a chest pain, they think, "This time, it could be my heart," and then they think they're going to drop dead. And so, they turn to A&E departments, casualty departments and ER's.

So, we took a group of 28 patients who had own coronary angiograms turn up negative (so no coronary/artery disease) and gave them hypnotherapy or supportive treatment + the placebo. And we looked at the outcomes. And here you can see dramatic improvement. Eighty percent of patients responded in the hypnotherapy group compared with the controls. And then, general well-being, again, a huge difference between the two.

And then, this is the short-term result here. And you can see no further improvement in support after two or nearly three years; hypnotherapy, they're staying well (and if anything, a little bit more improved).

And if you look at quality of life, it's exactly the same. This is short-term. This is long-term. We saw further improvement.

So, how does hypnotherapy work? Well, it's obviously got a non-specific improvement just from being taken care of because you go from being seen once every three or six months in the clinic to going weekly sessions with the

therapist. So that was doing some good—which you've already seen, anxiety and depression can be helped, and we've looked at cognitive change.

And physiology, there's been some studies as well, which I'll show you.

So here's our model again of the pathophysiology. And we've already seen psychological factors. I've shown you that already. And the cognitive scale, this is a scale, a score, of how abnormal their thoughts are, catastrophization and this sort of thing, how they are not thinking quite right about their condition, how to manage the condition.

And we did that score before and after treatment. And as you can see, there's highly significant reduction in all the various domains of the score. And the total score significantly improved. So we're changing the way they think about the condition in a positive direction. So, it's certainly helping psychological factors.

What about motility and contractions? Well, here's a study where we put a transducer into the patient's rectum and recorded the contractions in the rectum. And then, the hypnosis does what an antispasm medication does. It reduces the frequency and height of the contractions.

And this is a study on gastric emptying. It's a bit of a complicated study where they gave them medication as well. But the hypnosis did improve gastric emptying. And quite a few patients with IBS have delayed gastric emptying. And that's why they feel full after meals. And so, that shows that we can improve the gastric motility. So certainly, we can have an effect on that.

And then, I've mentioned visceral sensitivity. This is measured by putting a balloon into the rectum and inflating it. And so, you blow a balloon up. And the normal people feel pain somewhere mid-20's to high 30's. That's the normal range for getting the pain. And if you blow the balloon up in IBS patients, they feel pain at a lower pressure. And then, after hypnotherapy, we've restored their sensitivity to much more normal levels. So we can help that.

And then, this is the way the brain processes pain signals from the gut.

And this is a study showing the anterior cingulate cortex. This is an area of your brain that is important in pain processing. It's been shown that a painful

stimulus, like I've just shown you with the balloon up into the rectum, can activate this anterior cingulate cortex more in IBS than controls.

And this is the part of your brain where the emotional response to a pain is processed. And so this is slightly [38:16] from the IBS.

And this is a study not in IBS, in normal people. But it demonstrates something quite interesting. So these are people who had been asked to put their hand into very hot, painfully hot water. The signals reach the brain. This is the sensory cortex. And then, that bit of the brain, the anterior cingulate where the emotional response is processed, lights up.

Then if you're hypnotized, someone asked them to put their hand back in that painfully hot water. Obviously, the same old story with the brain. But what's interesting is the anterior cingulate doesn't light quite so much. It shows that they were able to down-regulate their anterior cingulate cortex.

Now, the scanning studies are looking at the brain in people with IBS. This one's just to show you what psychological interventions, in general, can improve with brain scanning. And this one is particularly in IBS where they showed abnormal connectivity in the brain which is very complicated. These can be uncoupled with hypnotherapy.

So, hypnotherapy seems to also change what's going on in the brain.

And then, we've got diets. Well, we've talked about FODMAP diets and low fiber diets and things. But we told you about that gastrocolonic reflex. Now, whether you call that diet or not, I don't know. But this study, again, from the Swedish group shows that hypnotherapy can down-regulate that gastrocolonic reflex. So certainly, response of the gut to diet can be affected.

And inflammation, as I've mentioned, you can get IBS after a gastroenteritis. And so that seems to be that the inflammation persisted a little bit.

Now, there's no study looking at that because it's hard to detect this inflammation. But hypnotherapy, we've looked at hypnotherapy in inflammatory bowel disease. And this is a study we did some years ago now. We took 15 patients who were not responding to any treatment and were just about to have an operation to get it improved.

So, we did this hypnotherapy on these patients who were on the brink of having an operation. And with the usual gut-focused hypnosis, I followed them up for six years. And this is our results.

This is severe, very severe, moderate, mild, remission.

So, as you can see, they were severe before (because they were just about to have surgery). And then, after hypnotherapy, we've moved the majority to being much less severe. And then, after six years, they're doing really quite well.

And this is the quality of life—again, very poor quality of life […] And after hypnotherapy, we've moved them to a much better quality of life.

And looking at medication, 60% of them were able to come off their medication. And then, some of them were able to reduce it. And only two came to surgery whereas probably the whole lot would've come to surgery if we haven't intervened.

And in another group from Kefir from the USA, this looked at the relapse rate for ulcerative colitis. And it shows that with hypnotherapy, they stayed in remission longer than the attention control group.

So indirectly, we seem to be helping inflammation.

And again, there's this dybiosis that we're interested in. I know you're looking to be hearing a lot more about that. And there's only been one study so far looking at hypnotherapy and the bacteria. And it was negative.

But I think the problem there is they looked at the totality. And I think what we probably ought to be doing here is looking at people with a specific abnormality with a bacteria and seeing that *that* changes rather than the whole group. So I think this is waiting to be answered.

And then, of course, we can't really do anything about their genetics. We're getting quite a lot of the factors which are involved in IBS under control with hypnosis.

In summary, we're getting a good response rate, 60% to 70% response rate. And what's interesting… where drugs don't relieve all the symptoms, we seem to better relieve all the symptoms. And we improve our physiology. We're

actually doing something, making changes to their bodily functions. And we're helping them get that to work. We're helping them with less GP consultations. And we're reducing the medications.

So, it's very effective. It helps all symptoms. But it is time-consuming. And it's costly to provide compared with medicines (which are unfortunately cheap. We need a few expensive care medications with IBS. The current treatments are cheap, that's the problem).

And since we got funding from the NHS, their grant has not supported us so much. And actually, they've reduced our staffing by half (or just over half now). It's sad because we're getting these consistently good results. But still, the message isn't still getting through very well.

The other thing is… a group of units that was seeing really severe patients, and as you saw, suicidal, you can't just say, "Sorry, we can't help you anymore," so you need to have a strategy for caring for failures. And that's where we use other medications and whatever other things we can do. There are other things we can do, but this treatment works so well.

And lastly, if I can just mention my book which I've written for patients, *Take Control of Your IBS*, if you want to read it, it might help you understand because it is also talking about how the gut works and everything.

And it's interesting because quite a few patients will come to the clinic with my book under their arm. And I'm like, "Gosh, I'm not going to be able to help them because it's all in the book." But some of the things they say are interesting. Quite a few of them have said, "I've given this book to my doctor, so he knows a bit more about IBS" that I just thought I might mention.

So, that's all I've got to say today. I hope it's been of some use to you. And I thank you for your attention.