

# Doctors Speak: A Qualitative Study of Physicians' Prescribing of Antidepressants in Functional Bowel Disorders

## Abstract

Tricyclic antidepressants (TCAs) are frequently prescribed for chronic functional pain disorders. Although the mechanism of action targets pain perception, treating patients with TCAs for disorders conceptualized as “functional” can promote stigmatization in these patients because it hints at psychological dimensions of the disorder. The goal of this study was to understand how physicians prescribe TCAs in the face of this challenge. We interviewed eleven gastroenterologists in tertiary care clinics specializing in functional gastrointestinal disorders, such as irritable bowel syndrome. We found that the physicians interviewed 1) were aware of the stigma attached to taking anti-depressants for a medical condition, 2) emphasized biological, as opposed to psychological, mechanisms of action, 3) while focusing on biological mechanisms, they nevertheless prescribed TCAs in a way that is highly attentive to the psychology of expectations, making specific efforts to adjust patients' expectations to be realistic and to reframe information that would be discouraging, and 4) asked patients to persist in taking TCAs despite common and, at times, uncomfortable side effects. In this context of shared decision making, physicians described nuanced understanding and behaviors necessary for treating the complexity of functional disorders and emphasized the importance of a strong patient-provider relationship.

## **Introduction**

Beside its pharmaceutical value, the success of any medication depends on the physician's and the patient's preconceptions about therapy that come to play in the act of prescription. Each participant in the therapeutic relationship brings to the clinical encounter a set of conceptual and culturally specific assumptions about the role of medication, which are potentially conflicting (Kleinman, 1980). These assumptions are especially sensitive in the context of prescription of psychiatric medication for chronic functional disorders due to the frequent stigma associated to these conditions (Hearn et al., 2020). In this study, we investigated the use of tricyclic antidepressants (TCAs) as treatment for Irritable Bowel Syndrome (IBS), a common functional disorder.

Functional disorders are somatic conditions that cannot be explained sufficiently through organic causes. They can cause debilitating symptoms, yet often lack a precise pathophysiology and are often influenced by psychosocial factors (Murray et al., 2016). These can include chronic visceral conditions (e.g., irritable bowel syndrome, functional abdominal pain, non-cardiac chest pain, chronic pelvic pain) (Wessely et al 1999) and chronic functional peripheral pain (e.g., chronic low back pain, fibromyalgia, chronic headache, temporomandibular dysfunction) and general bodily conditions (e.g. chronic fatigue syndrome or motor or non-epileptic attack conversion syndromes) (Stone et al 2009; Yunus, 2015; Kaptchuk et al 2020). Furthermore, 'organic' conditions such as inflammatory bowel disease, rheumatoid arthritis, and systemic lupus erythematosus are sometimes accompanied by an added dimension of functional pain (Yunus, 2007). IBS, a functional gastrointestinal disorder, belongs to the above mentioned visceral chronic conditions and is one of the most common functional disorders, affecting 4.1% of the worldwide population (Sperber et al 2021). It is characterized by chronic gastrointestinal symptoms (stomach pain,

bloating, diarrhoea or constipation) and lacks a sufficient organic pathophysiological explanation (Drossman, 2016; Longstreth et al., 2008). As with other functional pain conditions, current theories hypothesise a multifactorial pathophysiology involving visceral hypersensitivity, aberrant central nervous system processing and post-infectious processes (Adriani et al., 2018; Drossman et al., 2016; Kaptchuk et al 2020). Importantly, like other functional disorders, the symptoms of IBS are highly susceptible to psychosocial factors and show high placebo responses in clinical trials (Patel et al 2005; Lu and Chang, 2011).<sup>1</sup>

Patients with IBS often endure stigma through perceived social undesirability of symptoms (e.g. unpredictable bowel habits) (Atarodi et al 2014; McCormick et al., 2012; Björkman et al., 2013; Drossman, 2016) as well as through implicit and explicit suggestions that functional disorders may have primarily psychological causes (Fink & Rosendal, 2008; Burke, 2019). Due to the epistemic primacy on the ‘visible’ and the mind/body dualism that pervades both medical and popular discourse, the shift from ‘no biomedical explanation’ to ‘psychological explanation’ is an easy slide (Rhodes et al 1999). Studies have revealed that the suggestion that this condition is ‘all in the head’ is often conveyed by medical personnel (Fava & Sonino, 2008; Burke, 2019) and is widely internalised by patients (Hearn et al 2020; Jones et al, 2009; McCormick et al 2012; Dancey et al., 2002; Taft et al., 2014). Because the idea of ‘mind’ is closely entwined with notions of individual ‘agency’, ‘volition’ and ‘self-control’, (Jackson, 2005; De Ruddere et al, 2016; Goldberg, 2017), psychological explanations tend to assign blame to the patient. Accordingly, the diagnosis of IBS is often accompanied by the experience of self-blame, guilt, and hopelessness (Hearn et al 2020).

---

<sup>1</sup> In recent years, gastroenterologists have increasingly preferred the term ‘disorders of gut-brain interaction’ (DGBI) to ‘functional bowel disorders’. The term ‘gut-brain’ more clearly points to the physical basis of these disorders, which, as we will see in this paper, is also a main concern for physicians who want to avoid psychologization. We nevertheless choose to keep the term ‘functional bowel disorders’ because we think that the implications and lessons of this study also apply to clinicians working on ‘functional’ disorders outside gastroenterology and with TCAs more generally.

Tricyclic antidepressants have been shown to be an effective treatment option for IBS in multiple RCTs (Rahimi et al 2009). They are prescribed at much lower doses than the traditional psychiatric range and are thought to regulate central and peripheral pain processing, with some effects of bowel motility (e.g. diarrhea and constipation) (Adriani et al., 2018). Despite available evidence to support their efficacy, however, the success of antidepressants has been somewhat limited in clinical practice due to common side effects (e.g. fatigue, dry mouth, sleep disturbance, headache, dizziness) (Clouse et al 1994), which is evident in the high dropout rates observed in clinical trials (Drossman et al 2003). Moreover, the prescription of an antidepressant has the potential to elicit the stigma that surrounds IBS (Hearn et al 2020).

The treatment of a functional condition like IBS with psychiatric medication runs the risk of contributing to perceived stigma by inadvertently reinforcing the idea that the illness is primarily psychological (Hearn et al., 2020). Patients' willingness to take an antidepressant as well as their tolerance of side effects might depend on how information about this medication is communicated during the therapeutic encounter. The quality of the therapeutic encounter – and, in particular, how information about anti-depressants for functional pain disorders is conveyed to patients in the clinic – is thus likely to be central to therapy success.

While broad clinical guidelines regarding informed consent and general prescribing practices are clear and easily available, knowledge of how gastroenterologists actually discuss antidepressants with patients in clinical practice is scarce. Our goal was to raise issues of antidepressants prescription from implicit knowledge to the level of self-reflection and explicit discussion. Through 11 interviews with gastroenterologists, we investigated how tricyclic antidepressants are prescribed – how information is communicated to patients, how

clinicians manage expectations of improvement and character of the therapeutic relationship, and the overall shared decision making involved – in the context of IBS.

## **Methodology**

We recruited 11 GI physicians with expertise in the treatment of IBS at two major academic medical centres in Boston, Massachusetts, USA. These physicians typically see treatment-refractory patients who have often consulted several specialists before being referred to their clinics. Each interviewee provided verbal consent to participate in the qualitative study and for the interview to be audio recorded. The recordings were anonymous (no identifiable information was recorded) and were later transcribed. The study received IRB approval.

Our inquiry into physicians' approach to TCA prescription was embedded in a larger study that looked at physicians' overall ways of caring for patients with functional gastrointestinal disorders, which will be published in full elsewhere (Ballou et al in preparation). The discussion on TCAs was distinct enough from the rest of the interview to deserve separate analysis. The TCA discussion took about 15 minutes while the entire interview lasted for about 40 minutes. Interviews were conducted individually, in the physician's personal office. With regards to TCA prescription, our primary aim was to query physicians on 1) the information that they discuss with patients about TCAs; 2) whether and how they set and manage expectations about their efficacy; and 3) more broadly, what they think patients want from a clinic visit and what the key components of a successful visit are (see table 1 for the specific prompts we used to elicit physicians' views on these aspects).

We employed an iterative immersion/crystallization approach (Borkan, 1999) to qualitatively analyse the interview transcripts. Authors read the transcripts independently and

identified the themes that emerged from the interviews. Through several group discussions we agreed on, and refined, the major themes.

## **Findings**

The insights that we gathered from our interviews can be grouped into the three themes mentioned above: 1) rationale for the use of TCAs as treatment Functional Bowel Disorders (including IBS); 2) managing expectations; and 3) establishing a strong patient-provider relationship with regard to TCAs and other potentially stigmatizing medications.

### **1) How TCAs are discussed**

The gastroenterologists we interviewed expressed specific attention to the stigma that often surrounds functional disorders and the use of ‘antidepressants’ as medication for chronic medical conditions. All reported taking great care in explaining the physiological mechanism behind anti-depressants for chronic gastrointestinal symptoms, especially chronic abdominal pain. They typically spend some time discussing evidence-based physiologic mechanisms (i.e. by reshaping nerve sensitivity in the gut) and are cautious in dispensing information that might suggest a psychological cause of the illness. For these reasons, many prefer to use the word ‘neuromodulators’ rather than ‘antidepressant’.

*Dr. I                    And I come very much to use the term neuromodulator as a new term for the patient to understand. And it's in the context that the gut has the most nerve population compared to the spinal cord and the brain in the entire body. So that we're using a medicine to try to modify sensation at the gut level that's been interpreted by the spinal cord in the brain.*

- Dr. 2 *What we're using it [TCA] for is not for your big brain but for the little brain, in the gut brain. [...] The dose we use is not trying to change your mind, it's trying to change the way the gut works, the gut brain.*
- Dr. 3 *But what we've discovered is that at low doses, about a 10th or 20th of the dose that you might use for anxiety or depression, these medications are really good at turning the volume down on these abnormal sensations.*
- Dr. 4 *We already know there's probably nothing like a tumor or an ulcer or things like that could explain your symptoms. [...] I believe you're feeling ill, I believe your symptoms are real, I want to start off with that first and foremost because I know it can be frustrating at times to be told that people think nothing is "wrong" even though, you clearly feel something is. But, sometimes, what happens in medicine for patients like you, is that we tend to focus only on the things that we can see as doctors. So, now it's left us with the things we can't see that we think could be making you sick and in your case we think it may be the nerve sensation. Sometimes with this type of disease process we make recommendations to start nerve moderating agents. If you look at why these agents were used in the past, you'll see that they're used for things like depression, anxiety, I don't think this is depression, I don't think this is anxiety.*

## **2) Managing expectations around efficacy and side-effects**

Whether prompted or unprompted by our questions, all clinicians had many things to say about expectation management in the clinic, and about its importance in the context of chronic digestive conditions and TCAs treatment. To the question of whether they tend to either build up or lower expectations of improvement, clinicians responded that it depends on

the scenario. Firstly, this depends on the type of patient who comes to clinic and their medical history. Almost all interviewees said that they start the consultation by asking patients about their goals and, when necessary, reframing those goals to match what is realistic in the treatment of their symptoms.

*Dr. 4            During the visit I'll ask, "What do you hope to gain at the end of this visit?"  
Because if they say, "I'm tired of dealing with nausea and I don't want to feel it anymore," then at that point, I start trying to lower expectations and say, "I think that's reasonable, I hope that we get rid of your nausea. With my experience, even if we are able to eventually get rid of it, it's a long process, where the middle step is fewer symptoms or less severe so that you have an improved quality of life."*

*Dr. 6            If it's this terrible problem that's sort of acute, they want relief from whatever the symptoms are and sometimes that can't happen. And so we have to kind of adjust their expectations to what might be more reasonable. Not over promising anything. [...] setting again realistic expectations.*

One of our major findings was that when it comes to providing information on benefits/risks of TCAs, clinicians do not deviate from the available medical data, but they may choose not to summarize all available data on their efficacy. Partly, this is because too much information “can be overwhelming” (Dr. 8), but also because expressing efficacy in terms of numbers and percentages can have a discouraging effect on the patient and might overly reduce expectations (and hope, accordingly). The following exchange on the prescription of TCAs and other medications is telling in this regard:

Dr. 9: *I hear from patients [...], "Someone said this is the drug, this is the treatment that will cure you." And I hear that a lot. And I can sell things like that, too, but I usually don't.*

Interviewer: *Why not?*

Dr. 9: *Because it's not true.*

Interviewer: *Do you try to reduce their expectations?*

Dr. 9: *I try to make it realistic.*

Interviewer: *And how do you do that?*

Dr. 9: *By telling them the truth.*

Interviewer: *How do you know what the truth is?*

Dr. 9: *Because I see the studies.*

Interviewer: *From the studies, okay.*

Dr. 9: *Yeah. So you would say, [...] "This will take care of your problems" but that's just not true. The data shows that [...] most people don't have complete improvement.*

Interviewer: *Do you tell them those numbers?*

Dr. 9: *No.*

Interviewer: *Your patients? Why not?*

*Dr. 9: I'll reduce their expectation too much.*

*Interviewer: So it sounds like you use a data-driven approach but you don't give the number.*

*Dr. 9: Right.*

*Interviewer: Okay. So you try to stay realistic.*

*Dr. 9: Well, realistic because there are other options. And probably because [...the numbers] are complicated.*

The same attention to framing effects and the potential danger of nocebo (negative placebo) effects was paid in regard to side-effects, which, especially for TCAs, can be substantial and alarming to patients.

*Dr. 3 And so when it comes to expectations, I'm very aware of the importance of sort of giving that positive beneficial effect and of the sort of nocebo effect as well. [...] And so I think if you give them every side effect under the sun to cover you medically, legally especially, you're just gonna end up sounding like a commercial where they either say this is ridiculous, I don't want to take it. Or they kind of blur you out. I want to give them practical side effects. And so for example, tricyclics, I might say, as I went through my spiel, dizziness, lightheadedness, interaction with alcohol, dry eyes, dry mouth, constipation. Am I going to talk about cardiac arrhythmias? No, generally not, because I think it's relatively rare. The risk is entirely low, especially if I do my homework.*

Dr. 4 *Now, you're naturally going to look up information, side effects, you're going to see a long list of scary things that may be side effects related to the medication. I'd be lying to you if I said that these things wouldn't happen. But you have to realize that when a medication is used commonly, eventually someone is going to complain of some side effect even it's not related to the medication."*

Dr. 7 wanted patients to understand the details and the complexity:

*Normally, we will discuss this the first time I see them, we will discuss the various neuromodulator options and generally I encourage them to just read and think about things and I explain to them it's a lot like the life decisions they make, we make, which is trade offs, knowing risk versus benefit, but the therapeutic response versus the potential side effects.*

Dr. 10 tried to encourage patience with the side-effect:

Dr. 10 *With tricyclic antidepressants... I'll tell them, "I want you to try it out for six weeks and then let's see what we can do past that."*

Indeed, we found that many clinicians look for commitment on part of the patient to adhere to the prescription for a period of time before deciding to discontinue, despite the side-effects.

For example:

Dr. 3 *[...] my policy is I want you to send me a message in two weeks, no sooner. Unless this medication is so severe that fire is coming out of your eyes [...] I*

*don't want to hear from you for two weeks. [...] And that's the point where we may start to see some improvement as well."*

Similarly,

Dr. 6 *[...] let's say if the more dangerous ones, let's say you're having palpitations or you are now having difficulty driving because you're too sleepy related to the medication, please let me know, that's something we need to act upon immediately. But if it's a general tiredness that you can push through, then I ask for you to push through. But a lot of times people don't have the side effect, even if it's common. I think it's a good medication, that's the reason why I'm providing it.*

### **3) Key components of a successful visit**

Due to the chronic and functional nature of these conditions, physicians were mindful of the importance of care and attention during the therapeutic encounter. They emphasised the importance of building rapport, and hope in the patients, each in their own distinctive way.

Dr. 2 *It's all about empathy. They've got to think that you understand what they're experiencing and to me it's very important that I try to understand what they're experiencing.*

Dr. 6 *The important aspects of a clinic visit are first that the patient feels they are being listened to and heard. So I often will let them talk for a certain period of time without interrupting them. I want to make sure I understand what the patient's perception of the problem is. [...] I try to be very nonjudgmental, so that there's no barrier to the patient being as honest as possible-*

Clinicians also mentioned several techniques (mostly non-verbal) that help them establish a personal connection with patients. For example:

*Dr. 3            I think it's being open minded to what they say. I think it's listening, not looking at your computer. So one thing I do is I take all my notes on a piece of paper folded in half rather than typing in my computer. And when I do go to my computer to look at something, I acknowledge that I'm looking at my computer and I apologize.*

*Dr. 2            Also, I try hard to have some light-hearted moments, and also add a smile, because I once had a patient tell me that I was the first doctor they'd seen in twenty doctors with this illness, and I'm the first one they've seen smile, which is really bad.*

All physicians saw hope as universally critical, and saw themselves as catalysts for such state in the patient. Although its meaning was not precisely articulated, they saw hope as being strictly related to the management of expectations.

*Dr. 3:            I think hope is extremely important. I think many of these patients have hopelessness for two reasons. One, their symptoms are debilitating. And two, they've been told either explicitly or implicitly that their symptoms aren't valuable. And so there's this cognitive mismatch in your heads that sort of says, I feel miserable, yet everyone's telling me that I'm okay. [...] And so hope is to say, listen, I understand that your symptoms are severe. I*

*understand that it impacts every moment of your life or a lot of your life. And I think with proper treatment, I actually do think that you can benefit.*

## **Discussion**

Contrary to the high levels of ‘enacted stigma’ reported in other studies on functional disorders (e.g. Miresco and Kirmayer, 2006), the gastroenterologists that we interviewed, who have great expertise in functional gastrointestinal conditions, are highly sensitive to this potential issue and structure their prescription of TCAs in ways to prevent it. We found that they deal with the apprehension posed by psychological explanations in the context of IBS by centring the explanation of TCAs on the known and hypothesized physiological causes of IBS and the mechanisms of action of a TCA as a ‘neuromodulator’. For instance, doctors took great care in explaining that, although these medications come from psychiatry, they are prescribed in much lower dosages for IBS in order to act on ‘*nerve sensitivity in the gut*’. As Dr. 4 put it, “*I’m not treating depression, I’m not treating anxiety, I’m treating these misfiring nerve pathways that I think are causing you to have symptoms*”. They tend, in short, to deflect the discussion of TCAs away from psychological talk (see also Ring et al 2005).

At the same time, we found that the doctors we interviewed convey information about TCAs in a way that was highly attentive to the psychology of expectations, and that they are conscious about the role that expectations play in treatment. Our interviews revealed that physicians attempt to adjust and reframe patients’ projections of improvement at various junctures of the therapeutic process, with the goal of shaping realistic expectations of patient therapeutic outcomes and patients’ confidence in the efficacy of medication. This was felt to be particularly crucial in the discussion of TCAs side-effects. On this point, all physicians recommended that patients weather the initial symptoms of TCA side-effects in order to reap the benefits of the treatment in the long term. They mitigate patients’ worries about side-effects by highlighting the rarity of serious side effects and avoiding dispensing information

that might be more alarming than beneficial. The information given to patients is not a simple statement of the ‘facts’; rather, it is flexibly applied to emphasize different aspects of benefits and potential side-effects. We found that the interviewed clinicians adjust expectations by leveraging the expansive meaning of adverbs such as ‘sometimes’ or ‘rarely’ or modal verbs such as ‘it *may* work’, while keeping their projections realistic in order to avoid disappointment in the case of failure. Overall, they agree towards a course of treatment through a shared decision-making process (Charles et al 1997) that carefully navigates the perils of stigma and psychologization.

We suggest that, by attentively tailoring their interactions to both reduce stigma and improve tolerance and acceptance of the drug, clinicians play a key role in managing two kinds of ‘paradoxes’ that have been discussed in the literature on chronic conditions. Firstly, they deal with what Mattingly (2010) has termed the ‘paradox of hope’: chronically ill patients, such as patients with IBS, find themselves straddling the boundary between hoping enough for an eventual recovery and embracing any positive effects of the treatment while, simultaneously, keeping hopes in check to avoid the possibility of despair when treatment fails (see also Corbett et al 2007; Eaves et al 2016; Lohne and Severinsson 2004; Morse and Penrod, 1999). The clinicians we interviewed considered ‘hope’ as crucial in the therapeutic process and saw it as intimately entwined with expectation management (Kube et al. 2019). Secondly, clinicians are involved in the closely related ‘paradox of expectations’ (Büchel et al 2014; Wiech, 2016). Evidence has shown that positive expectations, at least in acute laboratory experiments, are beneficial in producing ‘placebo effects’; yet, expectations in clinical practice that appear too strong to the patient have the opposite effect of dampening or nullifying these effects. Moreover, if unfulfilled, these can be harmful because they may lead to disillusionment in any type of treatment (Fava et al 2017). Overall, the interviewed physicians’ approach in dealing with these two paradoxes in the context of TCAs prescription

aligns with what research suggests is the most effective way of harnessing placebo effects and preventing nocebo effects. Some clinicians made explicit mention of ‘placebo’ and ‘nocebo’ effects without being prompted, showing awareness of the significance of these phenomena.

The doctors we interviewed mitigate these inherent constraints and tensions by fostering a strong doctor-patient relationship. Our study reveals an effort to establish rapport, empathy and hope with patients throughout the therapeutic process. In the absence of a satisfactory explanatory model – and wary of the danger posed by purely psychological explanations – they adopt empathic and hopeful stances to cultivate this relationship. Each of them has their own individual ways – or ‘habits’ (Hardman et al 2019) – to achieve this goal. For example, some doctors emphasised the importance of non-verbal behaviour, like smiling and active listening without interrupting, while others mentioned that they explicitly tell the patients they understand how they feel. This illustrates that there is not only one ‘proper’ way but that there might be individual approaches to successfully face the challenge of treating difficult chronic conditions that demand exceptional empathy and communication skills on the clinician’s part.

## **Limitations**

Our study presents several limitations. First, the physicians we interviewed are probably not representative of doctors in general, which limits the results’ generalisability: as gastroenterologists, they are specialised and very experienced in treating bowel disorders, and this sample of gastroenterologists had specific expertise in treating functional gastrointestinal conditions such as IBS. Furthermore, all of them are associated with large academic medical centres, where they have been involved in multidisciplinary research and, therefore, they are

probably more familiar with the literature regarding psychosocial aspects of medical care than doctors on average. For instance, they have clearly mastered many of the skills that are proven to make an effective doctor-patient relationship (Drossman et al 2021), such as the ability to reconcile the explanatory model between patient and provider. It is likely that the outcome of our study would be different had we interviewed a cohort with more diverse levels of experience in treating patients with functional conditions and in dealing with TCAs. We hope that such a study will be carried out in the future. On the other hand, the level of expertise held by the physicians interviewed may simultaneously be seen as a strength of this study in the sense that these results provide an in-depth view into how physicians who have mastered the skills of doctor-patient communication approach clinical conversations regarding prescribing TCAs for functional disorders.

Likewise, the patient population seen by these physicians may also not be representative of all cultural, educational, and social groups. Interviewing the patients who were treated by the clinicians would have yielded a clearer sense of the generalisability of the study and of the overall shared decision-making involved.

It would have also been helpful to confirm whether stigma about receiving TCAs is something that is truly internalised, as the clinicians suggest it typically is. It was clear that our physicians emphasized TCAs as “neuromodulators” and de-emphasized any psychological dimension to the treatment. Additionally, in our previous three qualitative studies of placebo treatment in IBS, patients expressed fear of psychological stigma and often worried that “maybe I made up whole thing” (Kaptchuk et al 2009, Bishop et al 2012, Haas et al 2022). Yet, there might be a sub-population of patients who find psychologization beneficial; they might recognise psychological suffering around functional disorders and view TCAs a way of validating emotional distress. The addition of a parallel group of interviewed patients would have clarified this issue.

Finally, in order to glean a more comprehensive picture of the shared decision-making involved in the prescription of TCAs, it would be valuable to investigate the network of resources that patients avail themselves of before entering the clinic. Shared decision-making is known to go beyond the doctor-patient dyadic form and encompass a range of encounters with both other people and technologies (Rapley, 2008). In particular, the proliferation of digital health and social media has been shown to expand the information that the patient brings to the therapeutic encounter (Caiata-Zufferey et al 2010). Bussey and Sillence (2019) suggest that increased access to medical information has brought about a shift from the traditional paternalistic healthcare model to one of enhanced shared decision-making where the patient engages much more in the discussion of options and preferences. The privacy afforded by online environments encourage the search for sensitive topics that patients would be wary of broaching in the clinic. It is likely that web-based resources shape the perception of TCAs prescription and stigma from the patient's viewpoint, and it would be worth examining whether and how physicians take this into account.

These limitations notwithstanding, the purpose of this qualitative study was to promote awareness of this sensitive topic and to stimulate conscious discussion about the role of communication when prescribing antidepressants in functional disorders, rather than to investigate a representative sample of physicians. Due to their outstanding experience with this task and their exceptional awareness of the role of stigma, communication, and expectations, the interviewed gastroenterologists might serve as paragon for other healthcare providers who face similar challenges. By increasing respective medical school trainings of how to deal with expectations and stigma, beneficial communication skills could even be developed systematically in future physicians.

## **Conclusion**

Low-dose tricyclic antidepressants are a common and effective treatment option for patients with IBS, but these medications are beset by the stigma frequently associated with functional disorders that symptoms may be 'all in the head'. The gastroenterologists we interviewed expressed awareness of this issue and their explanations focused on physiological and pain-specific mechanisms of antidepressants. While they did not use psychological talk in the context of prescribing TCAs, however, the manner in which they prescribe TCAs to patients showed high sensitivity to the psychology of expectations. These physicians took great care to adjust patients' goals and inspire hope while being realistic in a way that harnesses 'placebo effects'. At the same time, they reframed otherwise discouraging information about side-effects in order to improve medication adherence and prevent nocebo effects. Our cohort of physicians expressed deep concern for their patients and made efforts to navigate a complex world of hope, expectations in the context of empathy and the building of rapport.

Compliance with Ethical Standards:

Funding: One author's research efforts were supported in part by the Economic and Social Research Council (ESRC) and the Wenner-Gren Foundation (Hunt postdoctoral fellowship)

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent: Informed consent was obtained from all individual participants included in the study.



## References

- Adriani, Alessandro, Davide G. Ribaldone, Marco Astegiano, Marilena Durazzo, Giorgio M. Saracco, and Rinaldo Pellicano 2018 Irritable bowel syndrome: the clinical approach. *Panminerva Medica* 60(4). Retrieved. January 24, 2021. from <https://www.minervamedica.it/index2.php?show=R41Y2018N04A0213>.
- Atarodi, Sima, Shahram Rafieian, and Peter J. Whorwell 2014 Faecal incontinence-the hidden scourge of irritable bowel syndrome: a cross-sectional study. *BMJ open gastroenterology* 1(1): e000002.
- Bishop, Felicity L., Eric E. Jacobson, Jessica R. Shaw, and Ted J. Kaptchuk 2012 Scientific tools, fake treatments, or triggers for psychological healing: How clinical trial participants conceptualise placebos. *Social Science & Medicine* 74(5): 767–774.
- Borkan, Jeffrey 1999 Immersion/Crystallization. *In Doing Qualitative Research*. B. F. Crabtree and Miller, W. L., eds., pp. 179–194. Thousand Oaks, CA, Sage.
- Büchel, Christian, Stephan Geuter, Christian Sprenger, and Falk Eippert 2014 Placebo Analgesia: A Predictive Coding Perspective. *Neuron* 81(6): 1223–1239.
- Burke, Matthew J. 2019 “It’s All in Your Head”—Medicine’s Silent Epidemic. *JAMA Neurology* 76(12): 1417.
- Bussey, Lauren Georgia, and Elizabeth Sillence 2019 The role of internet resources in health decision-making: a qualitative study. *Digital Health*. 5: 1-13.

- Caiata-Zufferey, Maria, Andrea Abraham, Kathrin Sommerhalder, and Peter J. Schulz 2010  
Online Health Information Seeking in the Context of the Medical Consultation in  
Switzerland. *Qualitative Health Research* 20(8): 1050–1061.
- Charles, Cathy, Amiram Gafni, and Tim Whelan 1997 Shared decision-making in the medical  
encounter: What does it mean? (or it takes at least two to tango). *Social Science & Medicine*  
44(5): 681–692.
- Clouse, R. E., P. J. Lustman, R. A. Geisman, and D. H. Alpers 2007 Antidepressant therapy in 138  
patients with irritable bowel syndrome: a five-year clinical experience. *Alimentary  
Pharmacology & Therapeutics* 8(4): 409–416.
- Corbett, Mandy, Nadine E. Foster, and Bie Nio Ong 2007 Living with low back pain—Stories of  
hope and despair. *Social Science & Medicine* 65(8): 1584–1594.
- Dancey, C. P., S. A. Hutton-Young, S. Moye, and G. M. Devins 2002 Perceived stigma, illness  
intrusiveness and quality of life in men and women with irritable bowel syndrome.  
*Psychology, Health & Medicine* 7(4): 381–395.
- De Ruddere, Lies, Martinus Bosmans, Geert Crombez, and Liesbet Goubert 2016 Patients Are  
Socially Excluded When Their Pain Has No Medical Explanation. *The Journal of Pain:  
Official Journal of the American Pain Society* 17(9): 1028–1035.

Drossman, Douglas A. 2016 Functional Gastrointestinal Disorders: History, Pathophysiology, Clinical Features, and Rome IV. *Gastroenterology* 150(6): 1262-1279.e2.

[Drossman, Douglas A., Lin Chang, Jill K. Deutsch, Alexander C. Ford, Alben Halpert, Kurt Kroenke, Samuel Nurko, Johannah Ruddy, Julie Snyder, and Ami Sperber 2021 A Review of the Evidence and Recommendations on Communication Skills and the Patient–Provider Relationship: A Rome Foundation Working Team Report. \*Gastroenterology\* 161\(5\): 1670-1688.e7.](#)

Drossman, Douglas A., Lin Chang, Susan Schneck, Carlar Blackman, William F. Norton, and Nancy J. Norton 2009 A focus group assessment of patient perspectives on irritable bowel syndrome and illness severity. *Digestive Diseases and Sciences* 54(7): 1532–1541.

Drossman, Douglas A, Brenda B Toner, William E Whitehead, Nicholas E Diamant, Chris B Dalton, Susan Duncan, Shelagh Emmott, et al. 2003 Cognitive-behavioral therapy versus education and desipramine versus placebo for moderate to severe functional bowel disorders  
1 1This study was registered with ClinicalTrials.gov (trial registry no. NCT00006157).  
*Gastroenterology* 125(1): 19–31.

Eaves, Emery R., Mark Nichter, and Cheryl Ritenbaugh 2016 Ways of Hoping: Navigating the Paradox of Hope and Despair in Chronic Pain. *Culture, Medicine, and Psychiatry* 40(1): 35–58.

Fava, Giovanni A., Jenny Guidi, Chiara Rafanelli, and Karl Rickels 2017 The Clinical Inadequacy of the Placebo Model and the Development of an Alternative Conceptual Framework. *Psychotherapy and Psychosomatics* 86(6): 332–340.

Fava, Giovanni A., and Nicoletta Sonino 2008 The Biopsychosocial Model Thirty Years Later. *Psychotherapy and Psychosomatics* 77(1): 1–2.

Fink, Per, and Marianne Rosendal 2008 Recent developments in the understanding and management of functional somatic symptoms in primary care: *Current Opinion in Psychiatry* 21(2): 182–188.

Goldberg, Daniel S. 2017 Pain, objectivity and history: understanding pain stigma. *Medical Humanities* 43(4): 238–243.

Haas, Julia W., Giulio Ongaro, Eric Jacobson, Lisa A. Conboy, Judy Nee, Johanna Iturrino, Vikram Rangan, Anthony Lembo, Ted J. Kaptchuk, and Sarah Ballou 2022 Patients' experiences treated with open-label placebo versus double-blind placebo: a mixed methods qualitative study. *BMC Psychology* 10(1): 20.

Hardman, Doug, Adam W.A. Geraghty, Mark Lown, and Felicity L. Bishop 2020 Subjunctive medicine: Enacting efficacy in general practice. *Social Science & Medicine* 245: 112693.

Hearn, Mark, Peter J. Whorwell, and Dipesh H. Vasant 2020 Stigma and irritable bowel syndrome: a taboo subject? *The Lancet Gastroenterology & Hepatology* 5(6): 607–615.

- Jackson, Jean E. 2005 Stigma, liminality, and chronic pain: Mind–body borderlands. *American Ethnologist* 32(3): 332–353.
- Jones, Michael P., Laurie Keefer, Jason Bratten, Tiffany H. Taft, Michael D. Crowell, Rona Levy, and Olafur Palsson 2009 Development and initial validation of a measure of perceived stigma in irritable bowel syndrome. *Psychology, Health & Medicine* 14(3): 367–374.
- Kaptchuk, Ted J., Jessica Shaw, Catherine E. Kerr, Lisa A. Conboy, John M. Kelley, Thomas J. Csordas, Anthony J. Lembo, and Eric E. Jacobson 2009 “Maybe I made up the whole thing”: placebos and patients’ experiences in a randomized controlled trial. *Culture, Medicine and Psychiatry* 33(3): 382–411.
- Kaptchuk, Ted J, Christopher C Hemond, and Franklin G Miller 2020 Placebos in chronic pain: evidence, theory, ethics, and use in clinical practice. *BMJ*: m1668.
- Kleinman, Arthur 1980 *Patients and healers in the context of culture: An exploration of the borderland between anthropology, medicine, and psychiatry*. Vol. 3. University of California Press.
- Kube, Tobias, Charlotte Blease, Sarah K. Ballou, and Ted J. Kaptchuk 2019 Hope in Medicine: Applying Multidisciplinary Insights. *Perspectives in Biology and Medicine* 62(4): 591–616.
- Lohne, Vibeke, and Elisabeth Severinsson 2004 Hope and despair: the awakening of hope following acute spinal cord injury—an interpretative study. *International Journal of Nursing Studies* 41(8): 881–890.

Longstreth, George F., W. Grant Thompson, William D. Chey, Lesley A. Houghton, Fermin Mearin, and Robin C. Spiller 2006 Functional Bowel Disorders. *Gastroenterology* 130(5): 1480–1491.

Lu, Ching-Liang, and Full-Young Chang 2011 Placebo effect in patients with irritable bowel syndrome: Placebo in IBS. *Journal of Gastroenterology and Hepatology* 26: 116–118.

Mattingly, Cheryl 2010 *The paradox of hope: journeys through a clinical borderland*. Berkeley: University of California Press.

McCormick, Jennifer B, Rachel R Hammer, Ruth M Farrell, Gail Geller, Katherine M James, Edward V Loftus, Mary Beth Mercer, Jon C Tilburt, and Richard R Sharp 2012 Experiences of patients with chronic gastrointestinal conditions: in their own words. *Health and Quality of Life Outcomes* 10(1): 25.

Miresco, Marc J., and Laurence J. Kirmayer 2006 The persistence of mind-brain dualism in psychiatric reasoning about clinical scenarios. *The American Journal of Psychiatry* 163(5): 913–918.

Morse, Janice M., and Janice Penrod 1999 Linking Concepts of Enduring, Uncertainty, Suffering, and Hope. *Image: the Journal of Nursing Scholarship* 31(2): 145–150.

- Murray, Alexandra M., Anne Toussaint, Astrid Althaus, and Bernd Löwe 2016 The challenge of diagnosing non-specific, functional, and somatoform disorders: A systematic review of barriers to diagnosis in primary care. *Journal of Psychosomatic Research* 80: 1–10.
- Patel, S. M., W. B. Stason, A. Legedza, S. M. Ock, T. J. Kaptchuk, Lisa A. Conboy, K. Canenguez, et al. 2005 The placebo effect in irritable bowel syndrome trials: a meta-analysis. *Neurogastroenterology and Motility* 17(3): 332–340.
- Rahimi, Roja, Shekoufeh Nikfar, Ali Rezaie, and Mohammad Abdollahi 2009 Efficacy of tricyclic antidepressants in irritable bowel syndrome: A meta-analysis. *World Journal of Gastroenterology* 15(13): 1548.
- Rapley, Tim 2008 Distributed decision making: the anatomy of decisions-in-action: Doctor-patient relationships and distributed decision making. *Sociology of Health & Illness* 30(3): 429–444.
- Rhodes, L. A., C. A. McPhillips-Tangum, C. Markham, and R. Klenk 1999 The power of the visible: the meaning of diagnostic tests in chronic back pain. *Social Science & Medicine* (1982) 48(9): 1189–1203.
- Ring, Adele, Christopher F. Dowrick, Gerry M. Humphris, John Davies, and Peter Salmon 2005 The somatising effect of clinical consultation: What patients and doctors say and do not say when patients present medically unexplained physical symptoms. *Social Science & Medicine* 61(7): 1505–1515.

- Sperber, Ami D., Shrikant I. Bangdiwala, Douglas A. Drossman, Uday C. Ghoshal, Magnus Simren, Jan Tack, William E. Whitehead, et al. 2021 Worldwide Prevalence and Burden of Functional Gastrointestinal Disorders, Results of Rome Foundation Global Study. *Gastroenterology* 160(1): 99-114.e3.
- Stone, Jon, A. Carson, R. Duncan, R. Coleman, R. Roberts, C. Warlow, C. Hibberd, et al. 2009 Symptoms ‘unexplained by organic disease’ in 1144 new neurology out-patients: how often does the diagnosis change at follow-up? *Brain* 132(10): 2878–2888.
- Stone, Jon, Wojtek Wojcik, Daniel Durrance, Alan Carson, Steff Lewis, Lesley MacKenzie, Charles P. Warlow, and Michael Sharpe 2002 What should we say to patients with symptoms unexplained by disease? The “number needed to offend.” *British Medical Journal* 325(7378): 1449–1450.
- Taft, T. H., M. E. Riehl, K. L. Dowjotas, and L. Keefer 2014 Moving beyond perceptions: internalized stigma in the irritable bowel syndrome. *Neurogastroenterology and Motility: The Official Journal of the European Gastrointestinal Motility Society* 26(7): 1026–1035.
- Wessely, S, C Nimnuan, and M Sharpe 1999 Functional somatic syndromes: one or many? *The Lancet* 354(9182): 936–939.
- Wiech, K. 2016 Deconstructing the sensation of pain: The influence of cognitive processes on pain perception. *Science* 354(6312): 584–587.

Yunus, Muhammad 2015 Editorial Review (Thematic Issue: An Update on Central Sensitivity Syndromes and the Issues of Nosology and Psychobiology). *Current Rheumatology Reviews* 11(2): 70–85.

Yunus, Muhammad B. 2007 Role of central sensitization in symptoms beyond muscle pain, and the evaluation of a patient with widespread pain. *Best Practice & Research Clinical Rheumatology* 21(3): 481–497.