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Lifestyle Behavior Change in Patients With Nonalcoholic Fatty Liver Disease: A Qualitative Study of Clinical Practice

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Nonalcoholic fatty liver disease (NAFLD) is the most common liver condition worldwide and is linked largely to obesity and inactivity. Lifestyle modification is the primary treatment for NAFLD targeting dietary change, physical activity, and exercise to facilitate weight loss and weight loss maintenance.[1–3] This has been shown to reduce steatosis and ameliorate steatohepatitis. European Clinical Practice Guidelines for the management of NAFLD[3] highlight the importance of targeting lifestyle behavior change in all patients with NAFLD regardless of disease severity. These guidelines recommend combining dietary restriction and a progressive increase in aerobic exercise and resistance training with a focus on tailoring interventions to the individual patient. Practice guidelines published by the American Association for the Study of Liver Diseases[4] recommend weight loss of at least 3% to 5% of body weight via hypocaloric diet or diet combined with increased physical activity but state that these lifestyle interventions should target patients with nonalcoholic steatohepatitis. Given the benefits of lifestyle behavior change, this study explored the perceptions surrounding clinical care as currently offered to patients with NAFLD. The aim of this study was to establish whether current provision of lifestyle behavior change support is sufficient, whether health care professionals believe they have the tools to target lifestyle behavior changes effectively, and how targeting diet and physical activity/exercise to facilitate weight loss and weight loss maintenance in practice can be improved from the perspective of health care professionals and patients.

Methods

Semistructured qualitative interviews were conducted with 21 health care professionals from 2 UK National Health Service Hospital Trusts and 11 UK National Health Service Clinical Commissioning Groups across a range of specialties (hepatology, gastroenterology diabetology, and primary care) and 12 patients diagnosed with NAFLD. Interviews were conducted using 2 interview topic guides developed with reference to the American Association for the Study of Liver Diseases and the European Association for the Study of the Liver, European Association for the Study of Diabetes, European Association for the Study of Obesity NAFLD guidelines.[4,5] They explored perceptions and experiences of current clinical practice including the diagnostic process, management of NAFLD, and recommendations for intervention and optimization of the current care pathway. All interviews were audio recorded, transcribed verbatim, and analyzed independently by 2 researchers using directed content analysis. Study design and reporting were in accordance with the "consolidated criteria for reporting qualitative research (COREQ)" checklist.[6]

Results

Physicians reported that the process for diagnosing and assessing NAFLD improved after implementation of local guidelines (Table 1, subtheme 1.1); however, they reported that the drivers of referral from primary to secondary care varied considerably. For example, a number of primary care physicians referred patients with abnormal liver test results or abnormal liver imaging suspecting NAFLD. They regularly provided a NAFLD score but requested advice for ongoing management and treatment, specifically about whether further investigations were required (Table 1, subtheme 1.1). Once diagnosed, a lack of knowledge and tools to deliver effective lifestyle behavior change meant that health care professionals reported monitoring rather than actively managing NAFLD (eg, annual reviews consisted of assessing disease progression) (Table 1, subthemes 2.1, 2.2, 3.1, and 3.2). Patients reported a lack of information provision after diagnosis of NAFLD, specifically relating

Abbreviation used in this paper: NAFLD, nonalcoholic fatty liver disease.

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Table 1. Illustrative Quotations by Theme From Data Generated by Health Care Professionals and Patients With NAFLD From Primary and Secondary Care

	Illustrative quotations
1.0 Theme: diagnosis	
1.1 Subtheme: local guidelines have improved the diagnostic process	"Guidelines are now more widely used, actually we get quite a lot that come (to secondary care) with a NAFLD Fibrosis Score already calculated and have done all the tests and then it's just a liver biopsy. So the new guidelines have made a big difference. Not everyone's using them yet but I think if we give it a couple of years, simple intervention will have made a huge difference" (HCP-SC2)
	"GP referrals with abnormal liver tests or abnormal liver imaging…suspect that it's NAFLD…quite often they've done a NAFLD score or something and they'll say, 'please advise on ongoing management and treatment, and do they need further investigations?'" (HCP-SC7)
1.2 Subtheme: inadequate information provision about what the diagnosis means	"I couldn't really go into it. It was so brief, what I got off my GP. And I haven't done much research into it myself. She did tell me I could Google it and read up about it…But I haven't." (56-year-old male patient)
	"They tell you very little really. You know, you just get told that you've got fatty liver disease, but they'll say a lot of people have fatty liver disease, it's nothing to worry about—lots of people live all of their lives, well, most of their lives with fatty liver disease and that's it." (67-year-old female patient)
2.0 Theme: management	
2.1 Subtheme: monitoring vs active management	"I would see them more with a chronic liver disease slant. I don't think I would ever enter into the situation where I'm ever actually managing their weight loss or fatty…Yes, I wouldn't ever…I'm not sure I could really afford to get too involved in the, kind of, active management of risk factors and stuff. I would definitely shun that back to primary care or to the patients themselves to be honest. I'm quite keen on getting the patient to take the responsibility" (HCP-SC11)
	"It's just a matter of monitoring how you get on. Making sure you're doing what she's telling you to do. The next step would be a consultant, but wouldn't they give you the same sort of information?" (56-year-old male patient)
2.2 Subtheme: general lifestyle advice rather than tailored intervention	"I mean that's the trouble with nonalcoholic fatty liver disease. Apart from lifestyle, there's not a lot else to (do treatment wise)" (HCP-SC12)
	"Normally you just tell them to lose 10% of their weight and that's it. There's no treatments" (HCP-SC3)
2.3 Subtheme: information provision about NAFLD is lacking	"I had the biopsy, and got the results back from the biopsy to say that they didn't need to see me again—but no help, no advice, no: 'Okay, you are at the early stages…this is what you need to do so that you don't progress,' nothing." (53-year-old female patient)
	"The only thing they said was to try and sort of lose a bit of weight…But, apart from that, no, I've never ever had any advice or anything else." (67-year-old female patient)
3.0 Theme: recommendations	
3.1 Subtheme: training to improve knowledge of NAFLD, diagnosis, and the referral pathway	"Probably under treat and under monitor most of these people. We're very aware that there's lots and lots of people have mildly abnormal liver function tests that we never really go into great detail, as long as it's stable. So I think there probably is a training need there to know who it is we should be looking at and when we should be referring them on." (HCP-PC6)
	"The problem with NAFLD is diagnosing it and I think the lack of treatment specific for NAFLD is the biggest problem…we're still coming back to telling them to exercise and lose weight…we don't actually even go after trying to make a proper diagnosis because what's the point? At the end of the day we're just saying good diet and exercise" (HCP-SC6)
	"I think the lack of understanding in primary care is very evident sometimes and a lot of them (patients) come very angry because they've been accused of drinking alcohol." (HCP-SC9)
	"I think it (increased knowledge) would be beneficial, the fact that when they start to ask me questions at least possibly I could give them an answer rather than saying, you need to speak to the (general practitioner) about that one." (HCP-PC5)
3.2 Subtheme: training to improve delivery of lifestyle interventions	"Skills of motivational interviewing and behavior change are probably where I think there is still an awful lot of people telling people what to do. And that culture needs to change" (HCP-PC1)
	"Some form of training on motivational interviewing would be really helpful. Because actually if you can improve the skills of the people who are seeing the patients then it's more helpful than doing nothing and it's less reliant on…someone else doing it. And I think it probably would help if you're referring to something like an exercise program you have to have got somebody on board with that, don't you?" (HCP-SC8)
3.3 Subtheme: information needs	"I would have liked for it to have been explained how or why you get it, because they don't really…by what I have read sometimes it's your diet and things like that. And, well, just what you should do really, just anything…it would be nice to have a leaflet just for it to explain, and things that would help." (67-year-old female patient)

Table 1. Continued

	Illustrative quotations
3.4 Subtheme: tailored support from a multidisciplinary team	"Some type of intervention in terms of weight loss and dieting might be quite useful. And certainly to kind of motivate them to do it regularly. You could have just a kind of nurse in-between seeing the doctors in the hospital. Or you could take it into the community if there are so many people who've got nonalcoholic fatty liver disease, and develop kind of satellite clinics, for which you don't really need a doctor." (60-year-old male patient) "I think people work well in groups and support each other, and it is nice to hear other peoples' experiences, I think that group session would be great." (53-year-old female patient)
4.0 Theme: service delivery	
4.1 Subtheme: multidisciplinary team input is important to tailor management of NAFLD	"In any kind of weight loss management we know that better outcomes come from the more intensive support, the more regular contact, and working through a series of, um, I suppose, tighter dietary restrictions, as well as accompanying education." (HCP-SC1) "Increased access to gyms and appropriate exercise, maybe having a trial of 'look these are different activities you could try in a nonthreatening environment.'" (HCP-SC2) "Multidisciplinary team…dietetics…key to delivery. Work on lifestyle change…individuals who develop NAFLD…are not particularly open to increasing exercise…individuals with fatty liver lack the confidence to make these changes…giving some advice and enabling people to make those changes would be useful…psychological support…not uniformly available. In terms of the exercise…greater links with group exercise sessions…cardiac rehabilitation… weight management..improving the pathways between these." (HCP-SC5) "What I ideally wanted was almost like a one-stop shop… I can foresee a great big clinic with me, the physio, a dietician, all doing a one-stop appointment for them to go out." (HCP-SC9)
4.2 Subtheme: tools to support management of NAFLD	"Food diaries, pedometers to set people simple goals…to nudge people toward slightly greater exercise and nudge people slightly lower calorific intakes. It doesn't have to be traumatic, in fact, the less traumatic it is the easier it will be to sustain it." (HCP-SC5) "A simple patient information leaflet" (HCP-PC4) "Nice to actually have an exercise and diet plan which is actually tailored to the patient themselves within an ability for regular review, and somebody to just be able to ring up if they're having any issues or any problems. I'm not saying 24 hours…I think personalized plans are very important, actually, because everybody's different…somebody who was properly nutritionally trained. That's very important…longer appointments with them to unpick kind of exactly what's happening, rather than your 10-minute slot where you try to cover everything…They'd appreciate that kind of thing. I think most patients do." (HCP-PC4)
4.3 Subtheme: approach to management that is flexible and offers choice	"What I would like is to be able to pass the patient on to some sort of lifestyle coach, and then for the next time I see them to have more data, so that I can look at what their calorie intake and what their eating habits are, what their pedometer shows, what their self-filled questionnaire about their self-efficacy….Yes, that would be useful to have a suite of information, it would incentivize me to see them again" (HCP-SC10) "Own gym and swimming pool with a physiotherapist…a dietician to have groups…a psychologist…always a psychological element to the weight. I think the physiotherapy part, because these are really big individuals, they can start even seated exercises, arm exercises, all this sort of thing which I can't teach them…aqua fit…a kitchen as well for teaching them how to cook" (HCP-SC6)

HCP-PC, health care professional from primary care; HCP-SC, health care professional from secondary care.

to NAFLD severity. Furthermore, some patients were advised that NAFLD is nothing to be concerned about when compared with other health conditions (ie, health conditions such as diabetes were viewed as more important) (Table 1, subtheme 1.2). This was particularly the case in primary care. Patients reported a lack of support thereafter to manage their condition effectively. They reported being advised to lose weight but did not receive any support to do so (Table 1, subtheme 2.3) and reported not knowing that NAFLD could be improved via lifestyle modification (Table 1, subtheme 3.3). This could explain in part why the majority of patients rarely succeed with weight loss in this context. Both participant groups reported the need for a multidisciplinary team to support the management of NAFLD, including a range of lifestyle intervention options that are sensitive to the needs and preferences of patients and that help to support long-term behavior change (Table 1, subthemes 3.4 and 4.1–4.3).

Discussion

Although evidence has shown that lifestyle interventions targeting diet and physical activity/exercise for weight loss are effective for managing NAFLD, and published clinical guidelines recommend such intervention, we have identified a substantial disconnect between guidance and how clinical care is delivered in practice. A lack of resources and training on how to target lifestyle

behavior change to help manage NAFLD long term effectively was reported by health care professionals, as well as the need for a joint way of working across disciplines to avoid miscommunication to patients. Patients further reinforced this finding, indicating that information and support at the time of diagnosis and thereafter is severely lacking.

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