Views and understanding of metabolic dysfunction-associated steatotic liver disease in patients with diabetes

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Highlights

- Few studies report on patient acceptability of liver disease screening in diabetes.
- Patients with T2D and T1D under and overestimated their liver disease risk.
- Patients with T2D or T1D wanted more liver disease education and screening tests.
- Data support MASLD screening in diabetes and a public health education opportunity.

Dear Sir,

Growing recognition of metabolic dysfunction-associated steatotic liver disease (MASLD) has led to numerous international groups advocating for routine screening for advanced liver fibrosis in patients with type 2 diabetes (T2D), most recently proposed by the Francophone Diabetes Society and French Association for the Study of the Liver [1]. Screening for MASLD is not currently recommended in the UK, but there is ongoing UK consultation for this.

Any screening program must be acceptable to the intended population, and patients should understand their risk of the disease. However, previous studies highlight that patients at risk of MASLD often poorly understand the disease, and their risk [2]. This may be a consequence of stigma, and assumptions about alcohol-related liver disease (ALD) in people with chronic liver disease. We sought to ascertain the views of people with diabetes on their risk of developing MASLD, and on MASLD screening.

Participants were patients with type 1 diabetes (T1D) or T2D attending hospital-based diabetes clinics in Swansea Bay University Health Board. Participants were asked to complete an anonymised questionnaire during their routine diabetes outpatient clinic appointment. Questionnaires were completed between September 2023 and February 2024 using a paper-based or electronic form as preferred by the participant. Participants responded to various statements using a 5-point Likert scale. Surveys were completed voluntarily, anonymously, and access to medical records was not needed as part of this service evaluation project, so ethical approval was not required. No funding was received for this work.

Four-hundred-and-three patients are included; 131 (32.5%) with T1D and 272 (67.5%) with T2D. Participants had mean age 57.3±14.8 years, 204 (50.6%) were male, 197 (48.9%) were female, and 2 (0.5%) were transgender. Patients with T2D were more likely to report pre-existing liver disease than patients with T1D (11.8 vs 3.8%, $p<0.01$). Reported pre-existing liver disease included; 32 (7.9%) MASLD, 2 (0.5%) ALD, 1 (0.3%) drug-induced, 1 (0.3%) cancer and 1 (0.3%) primary sclerosing cholangitis. Participants were asked what they believed was the commonest cause of liver disease, though 58 (14.4%) responded with two or more answers and were excluded. Of 345 valid responses, 247 (71.6%) felt ALD was commonest, and 71 (20.6%) believed MASLD was commonest. Other responses included liver cancer (n=4), viral hepatitis (n=1) and 22 (6.4%) participants were unsure.

Participants responded to four statements using a 5-point Likert scale. In response to "*I am at risk of developing fatty liver disease*", 151 (37.5%) responded "agree" or "strongly agree" with no significant difference between people with T1D or T2D (32.1 vs 40.1%, p=0.12). In response to "*I would like to learn more about fatty liver disease*", 265 (65.8%) responded "agree" or "strongly agree", with no significant difference between those with T1D or T2D (61.1 vs 68.1%, p=0.17). In response to "*I would like more blood tests to diagnose fatty liver disease*", and "*I would like more scans to diagnose fatty liver disease*", 238 (59.1%) and 214 (53.1%) responded "agree" or "strongly agree", with no significant difference between people with T1D or T2D for either statement. Participants who wanted to learn more about liver disease in diabetes were asked to cite as many further information resources as preferred. The most popular was their primary care physician (36.0%), followed by their hospital consultant (31.3%). There were no significant differences in the preferences reported by people with T1D or T2D. Data are presented in Figure 1.

In this survey, people with T2D were three times more likely to report pre-existing liver disease than those with T1D, similar to their relative prevalence of liver disease. Though, a prevalence of 11.8% in T2D and 3.8% in T1D is lower than expected, as 65% of people with T2D [3], and 22% of people with T1D [4], have MASLD alone. It therefore seems likely the majority of this cohort were unaware of, or were undiagnosed with, MASLD.

Two-thirds of respondents felt ALD was the commonest liver disease, but the population prevalence of ALD is just 3.5% [5], compared to 30% for MASLD [6]. Though, the risk of ALD in those with an alcohol-use disorder is greater at 51% [5], and stigma around ALD in people with an alcohol-use disorder may have led to this view. Nonetheless, participants with T2D underestimated their MASLD risk, as 40.1% reporting they felt at-risk, compared to the global prevalence of MASLD in people with T2D being 65% [3]. Inversely, responders with T1D overestimated risk, as 32.1% felt at-risk, compared to their global prevalence of 22% [4]. There is potential opportunity in this group for public health intervention given two-thirds indicated they wanted to learn more about MASLD. Given the range of preferred sources of further information, coordinated public health intervention is warranted.

Most participants wanted additional blood tests or scans to screen for MASLD. This is important because people with diabetes are already subject to a significant amount of

diabetes-related monitoring and screening. Previous studies report liver disease screening is acceptable in people with risk factors such as T2D or obesity [7].

These data highlight the need and support for MASLD screening in patients living with diabetes, and a public health opportunity for patient education about MASLD.

Declaration of interests

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Figure legends

Figure 1: A bar chart presenting participant preferences for sources of further information on MASLD. Abbreviations: *GP* general practitioner ; *T1D* type 1 diabetes; *T2D* type 2 diabetes.

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