Health-related quality of life correlates with histological severity in non-alcoholic fatty liver disease

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INTRODUCTION

Chronic liver disease potentially exerts a negative effect on a patient's health-related quality of life (HRQL). The role of histological disease activity, steatosis and fibrosis on HRQL remains undetermined.

AIM

Aim of the current study was to explore the impact of disease severity defined by liver histology in patients with non-alcoholic fatty liver disease (NAFLD) on patient reported outcomes (PROs).

METHOD

Patients that underwent liver biopsy during routine clinical practice in Newcastle (UK) and Mainz (Germany) were included. Patients are part of the prospectively enrolling, pan-European EPOS cohort. The Chronic Liver Disease Questionnaire (CLDQ), a liver disease specific instrument to assess HRQL was obtained within six month of liver biopsy.

The CLDQ consists of 29 items on a seven-point Likert scale ranging from 1 (all of the time) to 7 (none of the time) representing the frequency of clinical symptoms and emotional problems associated with chronic liver disease in the last two weeks. It is divided into six subscale scores (abdominal symptoms, fatigue, systemic symptoms, activity, emotional functioning, worry) and a CLDQ overall score. By dividing each domain score by the number of items in the domain, CLDQ results can be presented on a 1–7 scale with 1 indicating worst HRQL (bad) and 7 indicating best HRQL (good).

RESULTS

A total of 247 patients were included in this study, 154 from the UK and 100 from Germany. Demographic data and prevalence of metabolic risk factors are presented in Table 1. Mean CLDQ-overall score was 4.95 (±1.3) with the lowest scores reported in the subcategory "fatigue" with a value of 4.25 (±1.6), and the highest values with 5.43 (±1.4) in "activity" (Table 2). Reflecting lower HRQL, there was a negative correlation between overall CLDQ score and presence of obesity (p<0.001), type 2 diabetes (p<0.01) and dyslipidaemia (p<0.05). Interestingly, women exhibited a significantly lower CLDQ overall score compared to men (Table 2).

Table 1: Demographic data and prevalence of metabolic risk factors

Characteristic	Total (n=254)
Male gender*	138 (54.3)
Age (range)	54 (17-77)
BMI+	33.8 (30.5; 37.6)
Obesity*	185 (72.8)
Typ II diabetes*	128 (50.4)
Hypertension*	164 (64.6)
Hyperlipidemia*	148 (58.3)
ALT#	73 (48; 112)
AST#	50 (38; 70)
γ-GT#	89 (58; 166)

Data are expressed as *number (percentage) or # median (25th, 75th percentiles); ALT (normal range -<50 U/l), AST (normal range 5-35 U/l), γ-GT (normal range 12-64 U/l)

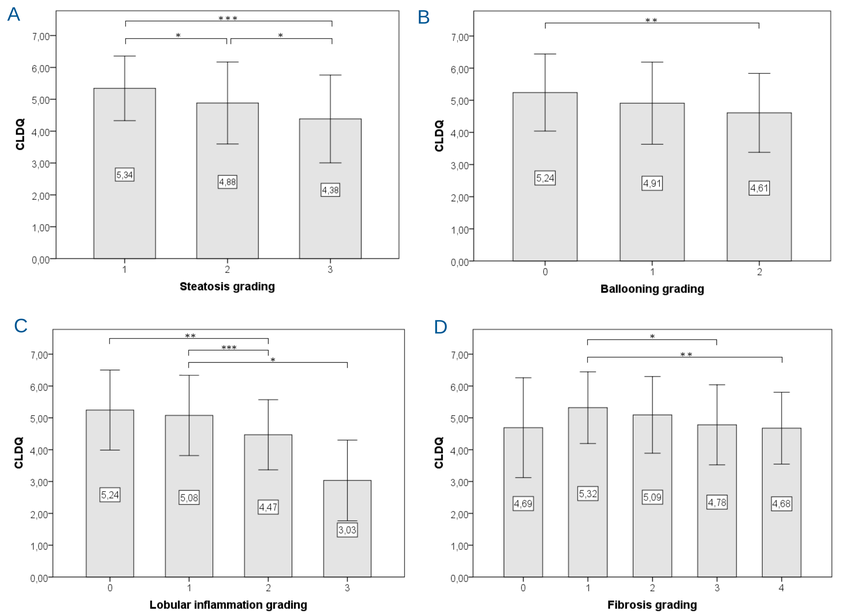
Table 2: Differences in Health-related quality of life concerning gender aspects

Parameter	Total (n=254)	Male (n=138)	Female (n=116)	p
CLDQ overall score	4.95 (±1.3)	5.25 (±1.2)	4.60 (±1.3)	**<0.01**
Abdominal symptoms	5.33 (±1.6)	5.65 (±1.4)	4.94 (±1.7)	**<0.05**
Fatigue	4.25 (±1.6)	4.51 (±1.6)	3.95 (±1.6)	**<0.001**
Systemic symptoms	5.04 (±1.4)	5.35 (±1.3)	4.68 (±1.4)	**<0.01**
Activity	5.43 (±1.4)	5.74 (±1.3)	5.07 (±1.5)	**<0.05**
Emotional functioning	4.87 (±1.5)	5.19 (±1.4)	4.49 (±1.6)	**<0.05**
Worry	5.17 (±1.5)	5.46 (±1.4)	4.83 (±1.7)	**<0.05**

Data are expressed as means and standard deviations. Comparisons between groups were carried out using the Mann-Whitney U test.

NASH was present in 177 (69.7%) of patients and was associated with significant lower HRQL compared to patients with NAFLD (mean (SD): 4.80 (±1.3) vs. 5.32 (±1.2); p<0.01). The histological features of NAFLD on liver biopsy had a significant impact on HRQL (Figure 1).

Figure 1: Impact of histological features of NAFLD on Health-related quality of life, (A) Steatosis grading, (B) Ballooning grading, (C) Lobular inflammation grading, (D) Fibrosis grading



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CONCLUSIONS

Histological disease severity in patients with NAFLD impacts the reported HRQL negatively even in the absence of cirrhosis. Hepatic inflammation and fibrosis had the most profound effect on patient-related outcomes (PROs). .

REFERENCES

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