

## PS-112

### Web-based counseling for NAFLD. Final results

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**Background and Aims:** Lifestyle changes are mandatory in NAFLD, but difficult to implement in busy Liver Units. We tested the feasibility and effectiveness of a web-based educational intervention aimed at lifestyle changes in NAFLD.

**Method:** According to our protocol, following diagnosis and motivational interviewing, NAFLD cases are invited to enter a multidisciplinary, 5-wk group-based lifestyle modification program, aimed at healthy diet and habitual physical activity, carried out by physicians, dieticians, psychologists. From 2010 to 2015, 716 subjects were observed (age  $52 \pm SD13$ ) and 438 completed the program in 3 months (group cohort-GC). We developed a web-based intervention, accessed via userid and password, for individuals who could not enter GC because of logistics, job- or time-constraints (web cohort-WC, n=278). Also the web intervention includes 5 modules, with interactive games, off-line contact with the Center, and questionnaires to investigate motivation, competence and learning. During follow-up, all subjects were only treated for comorbidities, with no specific therapy for liver disease. Surrogate markers of NAFLD severity were tested at 6-12-24-mo follow-up. Primary outcome was 10% weight loss; secondary outcomes were changes in BMI, ALT, surrogate markers (Fatty liver index-FLI, Fib-4, NAFLD Fibrosis score-NFS). WC results were tested for non-inferiority; comparison vs. GC was made by repeated-measures ANOVA.

**Results:** WC and GC had similar BMI ( $33\text{kg/m}^2$ ), with a higher prevalence of males (67% vs. 45%), younger age and higher education in WC. Attrition was higher in WC (OR, 2.46, 95%CI 1.68-3.61), associated with female gender, normal ALT at entry and no-diabetes. BMI decreased in both groups by nearly 2 points; the 10% weight loss target was attained in 14% (WC: 12% vs. 15% in GC, p=NS); another 20-28% attained a 5% loss. All liver enzymes decreased significantly, irrespective of treatment, but ALT normalized more frequently in WC (27% at 12-and 24-mo vs. 13% and 17% in GC). The web treatment increased the rate of ALT normalization at 6 months (OR, 2.34; 95%CI, 1.27-4.30), and 12 months (OR, 2.22; 1.33-3.73), not at 24 months (OR, 1.62; 0.94-2.78; p=0.080), after adjustment for gender, education level, employment status, age, BMI at baseline and presence of T2DM. FLI decreased significantly in both groups, more markedly in WC (p=0.034); Fib-4 and NFS decreased, but only Fib-4 changes were significant in both groups.

**Conclusion:** The study demonstrates the feasibility, long-term effectiveness and non-inferiority of a web-program, similar to an intense group-based lifestyle counselling, in achieving 10% weight loss in subjects on active follow-up. This threshold was previously associated with improvement in fibrosis in studies where the effects of lifestyle changes were measured at NAFLD histology.

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