



INTRODUCTION

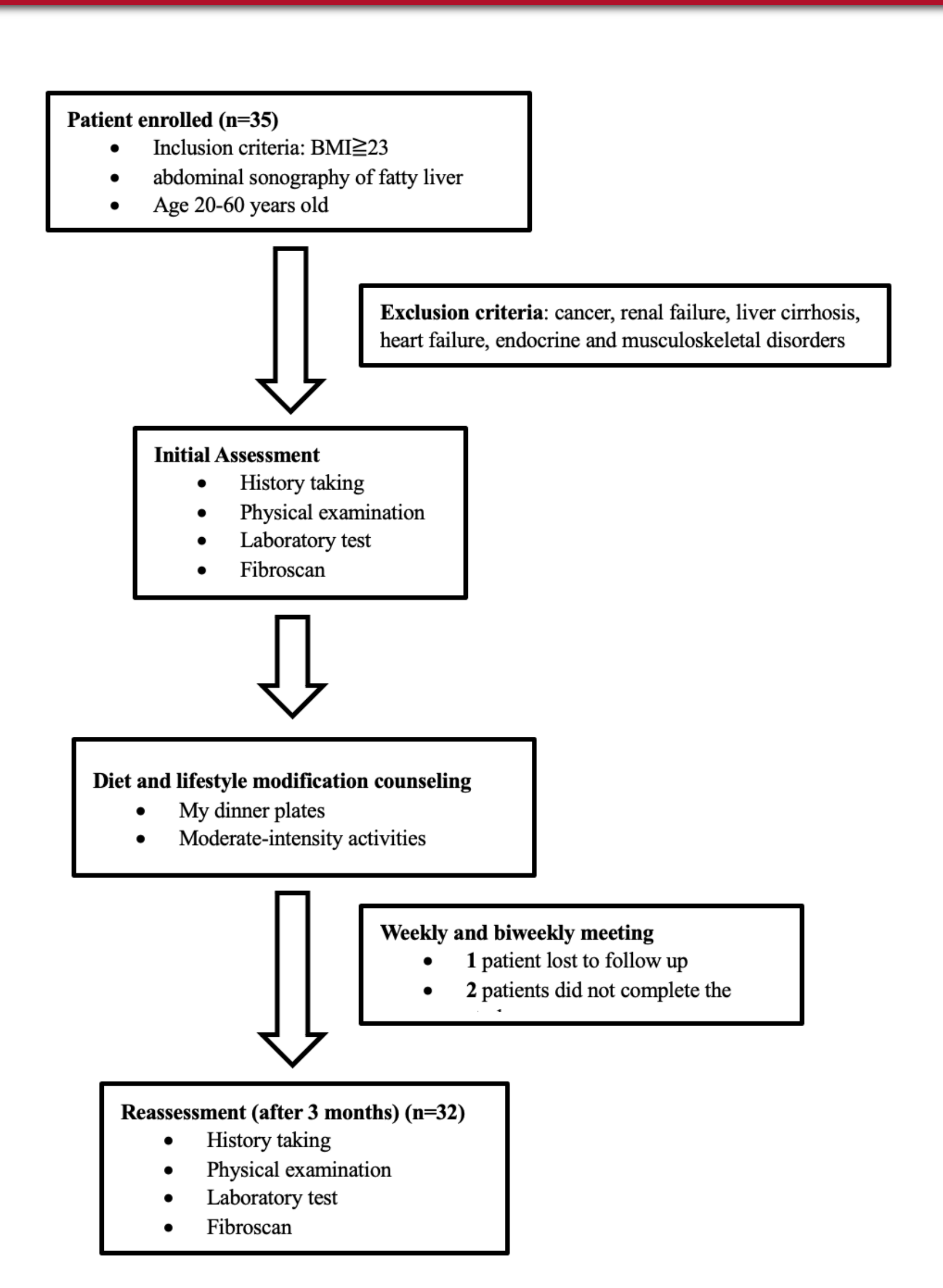
Metabolic-associated fatty liver disease (MAFLD) represents a growing global problem and is associated with increasing obesity prevalence.

Lifestyle modifications, including weight reduction, exercise, and diet control, are the currently recommended approaches for MAFLD.

Fibroscan device/transient elastography may be used to estimate the degree of liver scarring and steatosis using a controlled attenuation parameter (CAP) value.

This study evaluated the short-term effect of lifestyle modifications on transient elastography values in obese Taiwanese population with MAFLD.

METHOD



RESULTS

Table 1. Comparison of parameters before and after intervention

	Pre-intervention	Postintervention	Difference	p-value
Waist (cm)	103.19±13.12	95.75±11.96	-7.44±3.72	<0.001
Hip (cm)	111.67±10.72	104.75±10.55	-6.92±3.27	<0.001
Weight (kg)	88.09±20.75	80.35±19.51	-7.74±3.97	<0.001
WHR	0.92±0.06	0.91±0.05	-0.01±0.02	0.026
Body Fat (%)	37.07±4.18	34.27±4.44	-2.8±1.44	<0.001
BMI (kg/m ²)	32.24±4.98	29.4±4.72	-2.84±1.35	<0.001
SBP (mmHg)	127.66±15.57	119.09±12.02	-8.56±10.61	<0.001
DBP (mmHg)	78.03±13.58	71.09±8.29	-6.94±13.23	0.006
Heart rate (BPM)	84.5±11.45	76.03±10.91	-8.47±12.06	<0.001
HbA1c (%)	5.44±0.54	5.47±0.36	0.03±0.33	0.67
Fasting Glucose (mg/dL)	89.44±8.06	92.22±7.56	2.78±6.59	0.023
AST (U/L)	24.06±8.85	18.91±6.4	-5.16±8.76	0.002
ALT (U/L)	33±20.76	23.72±14.72	-9.28±19.79	0.012
GGT (IU/L)	26.59±18.23	19.81±14.83	-6.78±10.05	0.001
BUN (mg/dL)	11.09±2.23	11.31±2.29	0.22±2.55	0.631
Creatinine (mg/dL)	0.75±0.17	0.70±0.14	-0.05±0.08	0.002
Chol (mg/dL)	176.41±31.32	166.22±32.13	-10.19±24.14	0.023
TG (mg/dL)	122.59±49.11	113.28±61.32	-9.31±46.8	0.269
HDL (mg/dL)	42.88±8.29	43.94±8.86	1.06±4.99	0.238
LDL (mg/dL)	115.63±28.03	103.19±29.83	-12.44±20.59	0.002
HOMA-IR (mg/dL)	2.65±1.61	2.45±1.85	-0.2±1.94	0.564

WHR, waist-hip ratio; BMI, body mass index; SBP, systolic blood pressure; DBP, diastolic blood pressure; BPM, beats per minute. HbA1c, hemoglobin A1c; AST, aspartate aminotransferase; ALT, alanine aminotransferase; GGT, gamma-glutamyl transferase; BUN, blood urea nitrogen; Chol, total cholesterol; TG, triglyceride; HDL, high-density lipoprotein; LDL, low-density lipoprotein; HOMA-IR, Homeostatic Model Assessment for Insulin Resistance.

DISCUSSION

This study demonstrated that liver fat, assessed by CAP score, significantly reduced after a 3-month structured lifestyle modification program in patients with MAFLD.

Weight reduction, which is the major determining factor for MAFLD improvement and/or resolution, was achieved with the structured program and the CAP value may be used to monitor liver steatosis and respond to intervention.

The current study reinforced knowledge of lifestyle modification associated with significant improvement in markers for liver enzymes and metabolic syndrome (e.g., lower blood pressure, cholesterol, and LDL)

The postintervention liver stiffness value did not decrease significantly in the MAFLD patients but trended toward statistical significance. This may be the result of a low fibrosis score (F0–F1) at baseline in most of the patients .

Limitations includes uncontrolled experimental study that does not include a control group which can be confounded by Hawthorne effect, small sample size, lack of histological data, and single ethnicity patient population.

CONCLUSION

Short-term lifestyle modification can effectively improve hepatic steatosis.

transient elastography can be used to monitor therapeutic intervention in MAFLD population and may be introduced into clinical practice.

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Figure 1. Controlled Attenuation Parameter (CAP) and Liver Stiffness (LSM) values before and after intervention.

