Effectiveness of brief intervention in BAC-positive traffic casualties attending an emergency department

INEBRIA CONFERENCE

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AIM

- Main aim

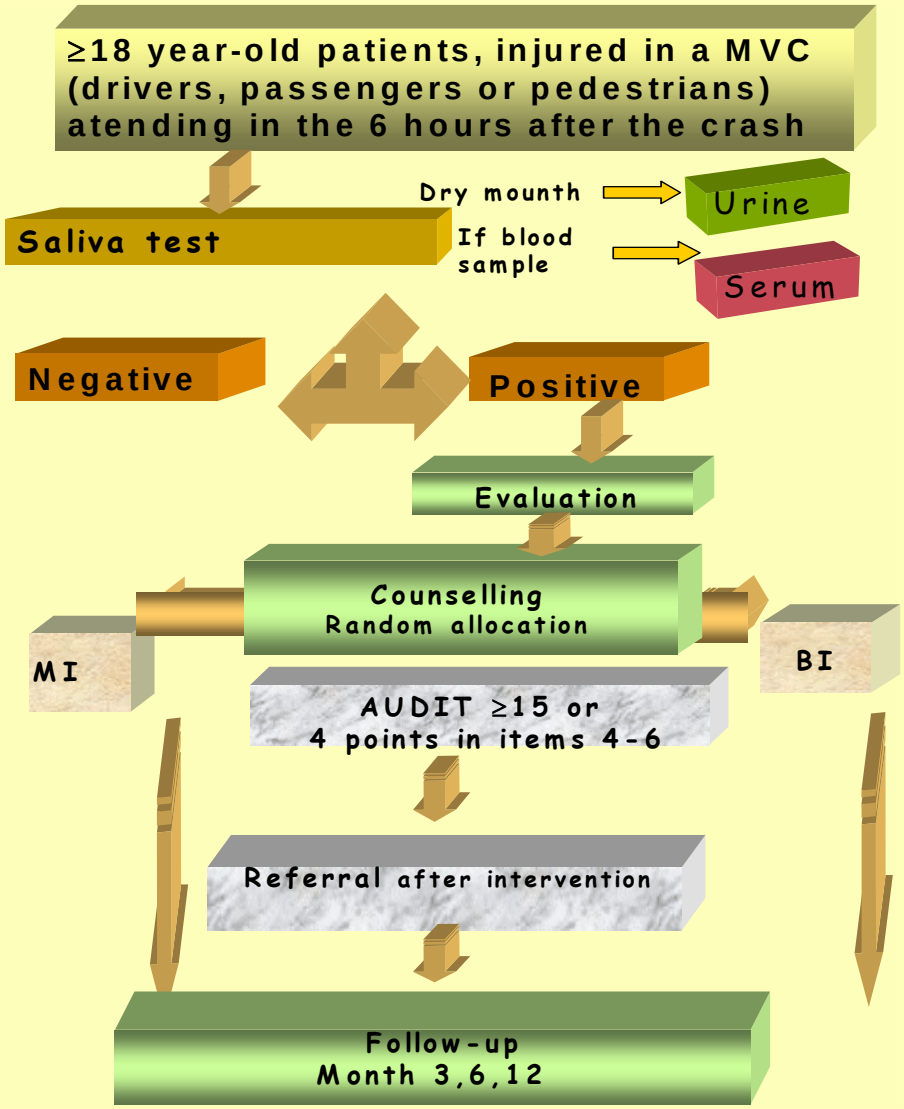
✓ To verify the effectiveness of BI (brief motivational intervention) compared with MI (minimal intervention = simple advice) to reduce the alcohol consumption in adult non-dependent traffic casualties who present to a trauma ER with a positive BAC

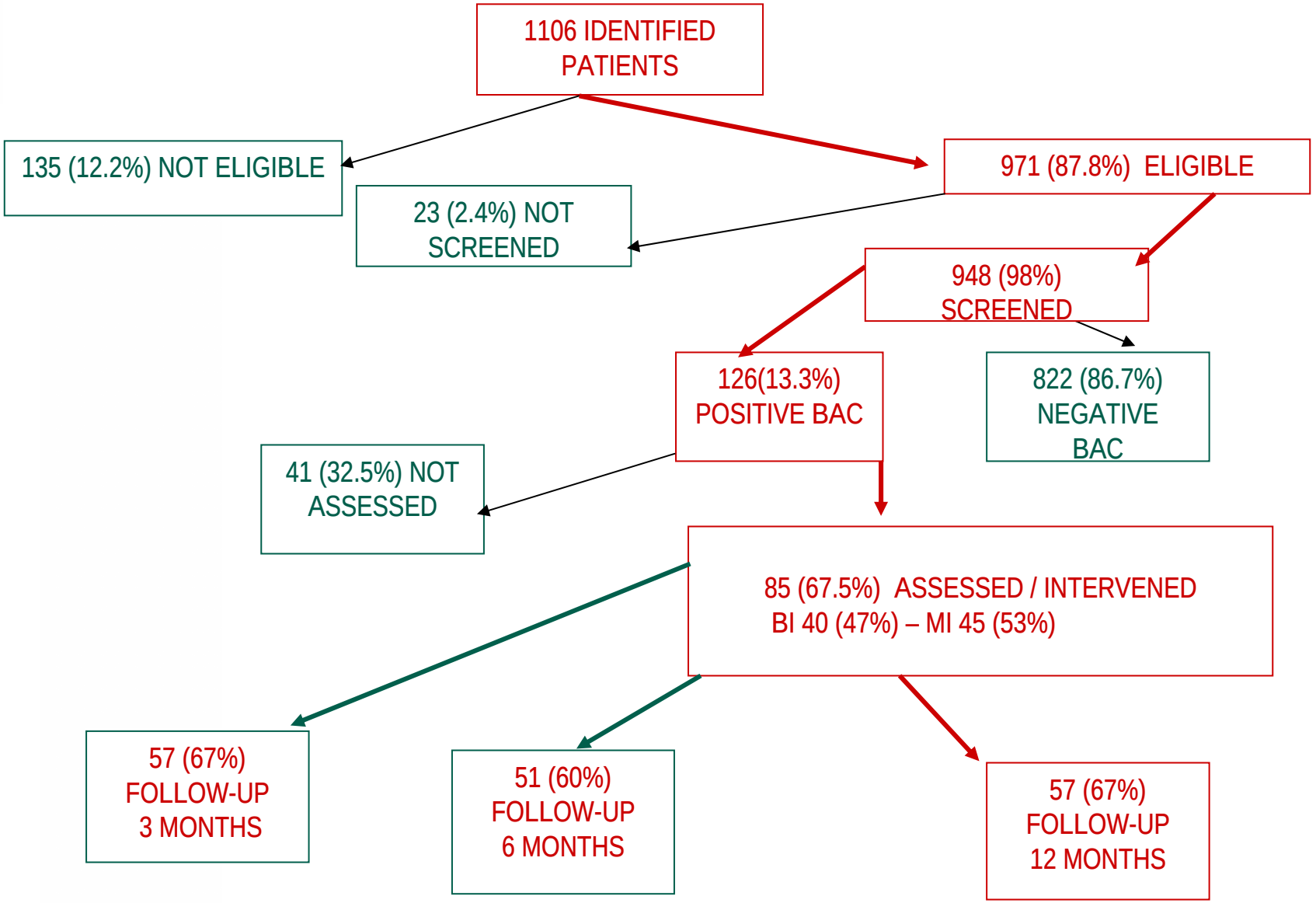
HYPOTHESIS

- BAC-positive MVC casualties (drivers, passengers and pedestrians) could reduce their alcohol intake, and eventually new traffic events, after a brief motivational intervention delivered at the “teachable moment” following the crash.

BI should be more effective than MI

STUDY PROTOCOL




1106 IDENTIFIED PATIENTS
135 (12.2%) NOT ELIGIBLE
971 (87.8%) ELIGIBLE
23 (2.4%) NOT SCREENED
948 (98%) SCREENED
126(13.3%) POSITIVE BAC
822 (86.7%) NEGATIVE BAC
41 (32.5%) NOT ASSESSED
85 (67.5%) ASSESSED / INTERVENED
BI 40 (47%) – MI 45 (53%)
57 (67%) FOLLOW-UP 3 MONTHS
51 (60%) FOLLOW-UP 6 MONTHS
57 (67%) FOLLOW-UP 12 MONTHS

BASELINE DESCRIPTION OF THE RESEARCH SAMPLE (N=85)

Gender: 88.2% males

Median age: 26 (IQR=21-33)

Drivers: 63.5%

Inpatient care: 32.9 %

ALCOHOL USE DISORDERS IDENTIFICATION TEST

AUDIT score (ítems 1-10) - cut-offs ≥8 / ≥ 6

mean 7.75 (CI 95%[6.83-8.68])

48.2% positive

AUDIT-C score (ítems 1-3) - cut-offs ≥5 / ≥ 4

mean 4.88 (CI 95%[4.42-5.34])

54.1% positive

BASELINE DESCRIPTION OF THE RESEARCH SAMPLE (N=85)

ATTRIBUTION OF INJURY SCALE

1 7

(mean score: 2.62 - median 2.0)

56.8% attributed ± injury to OH

Not at all (1)	43.2%
To some extent (2-4)	35.8%
To a great extent (5-6)	11.1%
Totally (7)	9.9%

BASELINE DESCRIPTION OF THE RESEARCH SAMPLE (N=85)

READINESS TO CHANGE RULER

1 10

(mean score: 6.10 – median: 7.0)

75.3% were contemplating or ready to change

Not prepared (1-4)	24.7%
Doubtful (5-7)	35.8%
Prepared (8-10)	39.5%

BASELINE DESCRIPTION OF THE RESEARCH SAMPLE (N=85)

The sample was randomly distributed into:

45 MI (52.9%) - 40 BI (47.1%)

Both were homogeneous concerning demographic and assessment variables

FOLLOWED-UP SAMPLE AT MONTH 12

- 57 patients (67.0% of those recieving an intervention)
  29 MI / 28 BI
- 86%
- mean age 26 (IQR= 22-33)

- Both samples (the *followed-up* and the *lost-to follow-up* patients), were homogeneous concerning demographic and assessment baseline data

Lost patients were mainly due to location problems (79%)

EVALUATION METHODS

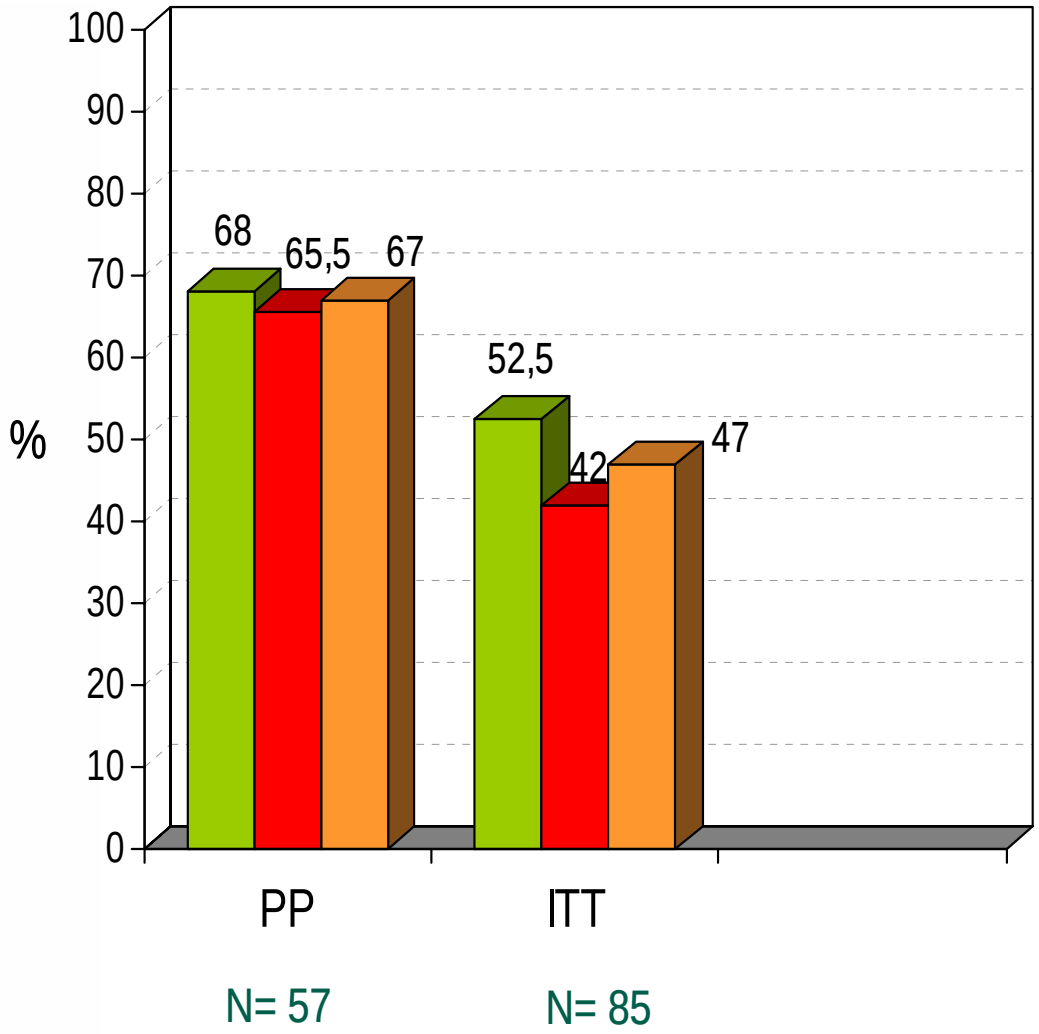
- Blind, phone follow-up interviews

- Changes in consumption (AUDIT-C score) analysed PP and ITT
  - % of patients who reduce and amount of reduction
  - % of patients with hazardous consumption (AUDIT-C positive)
  - % of AUDIT-C positive, at baseline, being negative, at month 12

- Accidents rate was evaluated comparing the % of followed-up patients who had had a MCV before (12 months) with the % of those having had a crash after (12 months) the crash which caused the study entrance

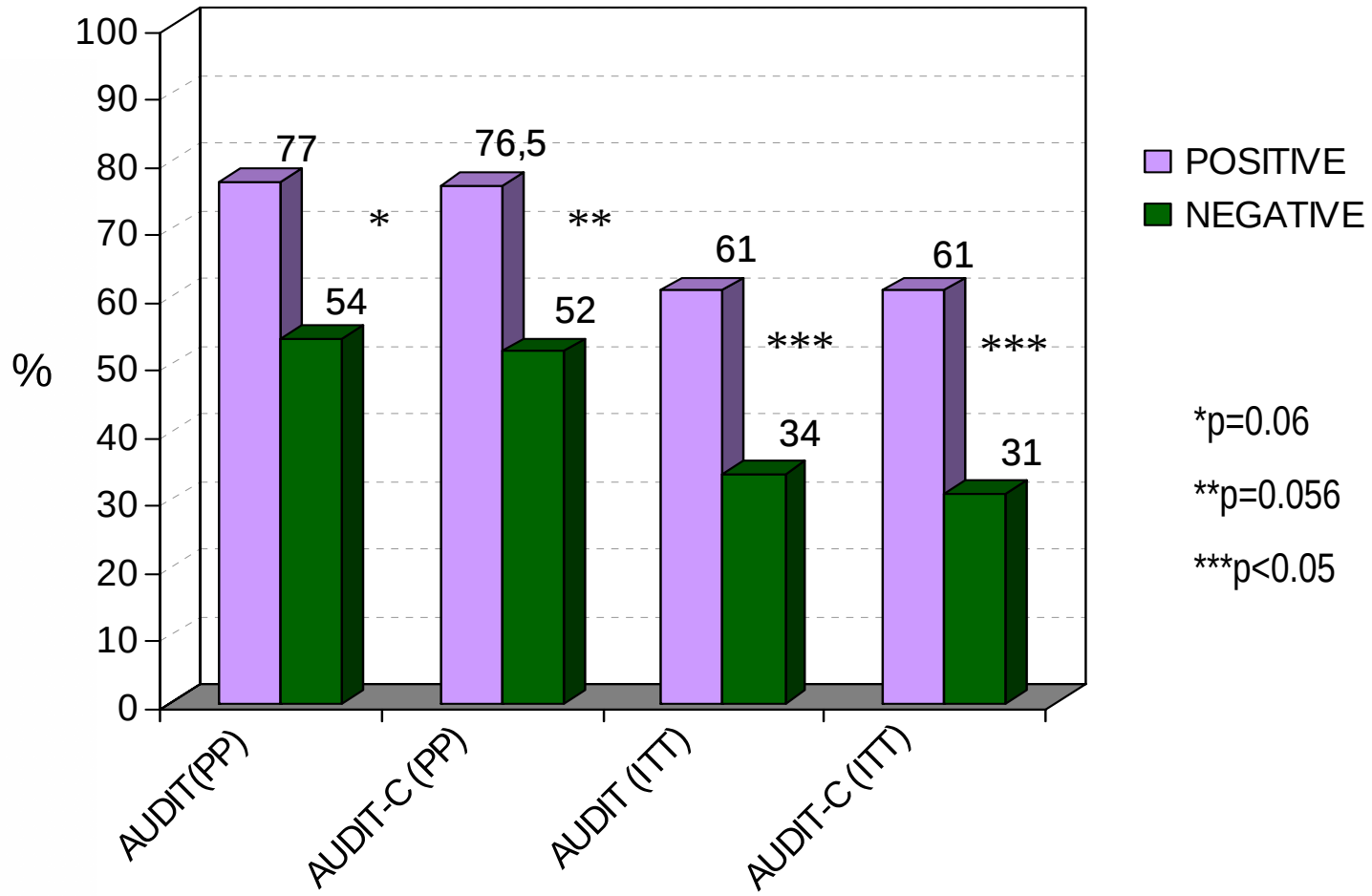
RESULTS

% PATIENTS WHO REDUCED CONSUMPTION AT MONTH 12 COMPARED WITH BASELINE

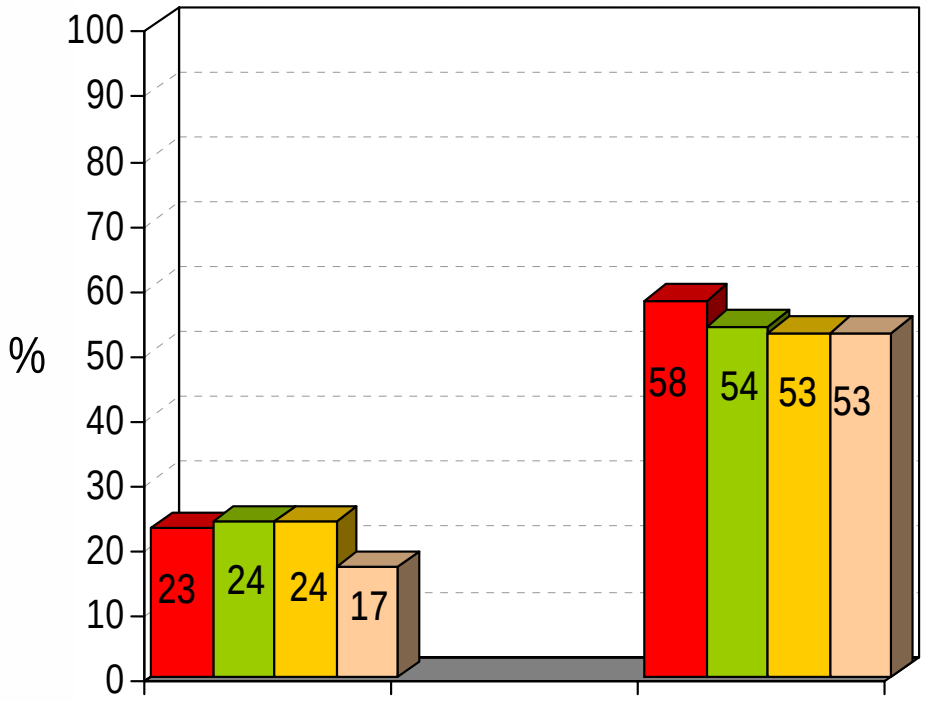


p(IB-IM) >0.05

% PATIENTS WHO REDUCED CONSUMPTION AT MONTH 12 BY BASELINE AUDIT & AUDIT-C SCORE



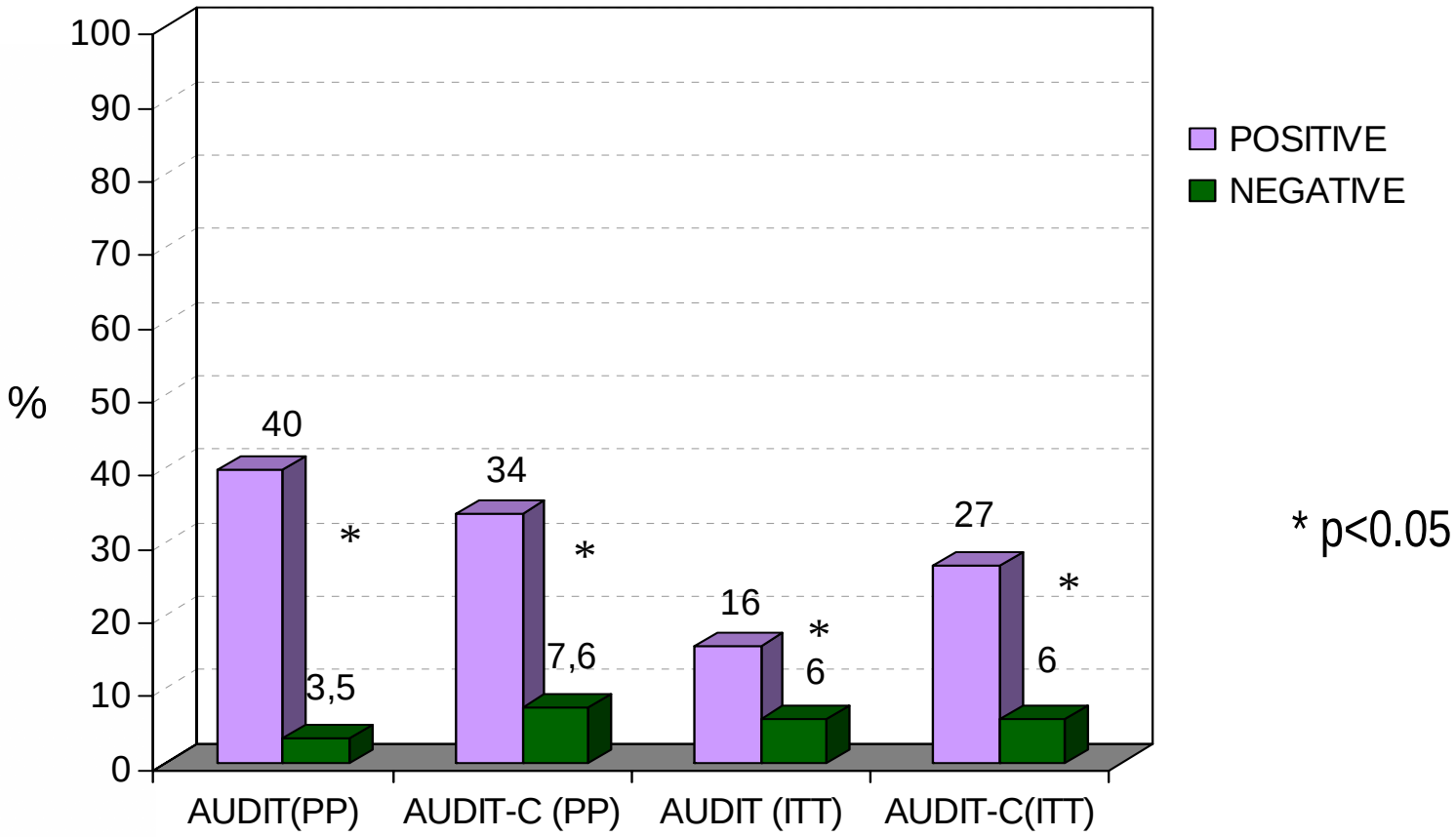
AMOUNT OF REDUCTION OF THE AUDIT-C SCORE, AT MONTH 12 (in %)



BI (PP)
MI (PP)
BI (ITT)
MI (ITT)

p(BI- MI) > 0.05

MEAN REDUCTION (IN %) AT MONTH 12 BY BASELINE AUDIT & AUDIT-C

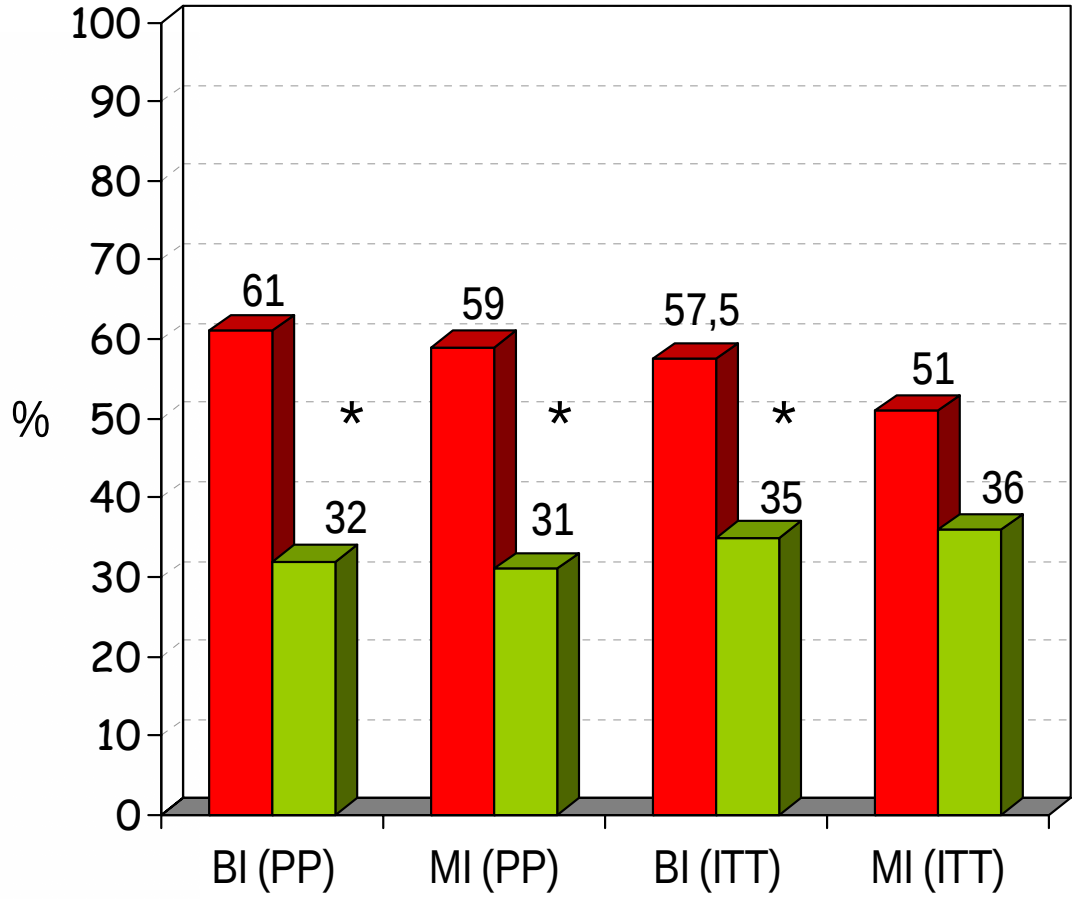


* p<0.05

PP N= 57

ITT N= 85

% OF HAZARDOUS DRINKERS (AUDIT-C +) AT BASELINE AND AT MONTH 12

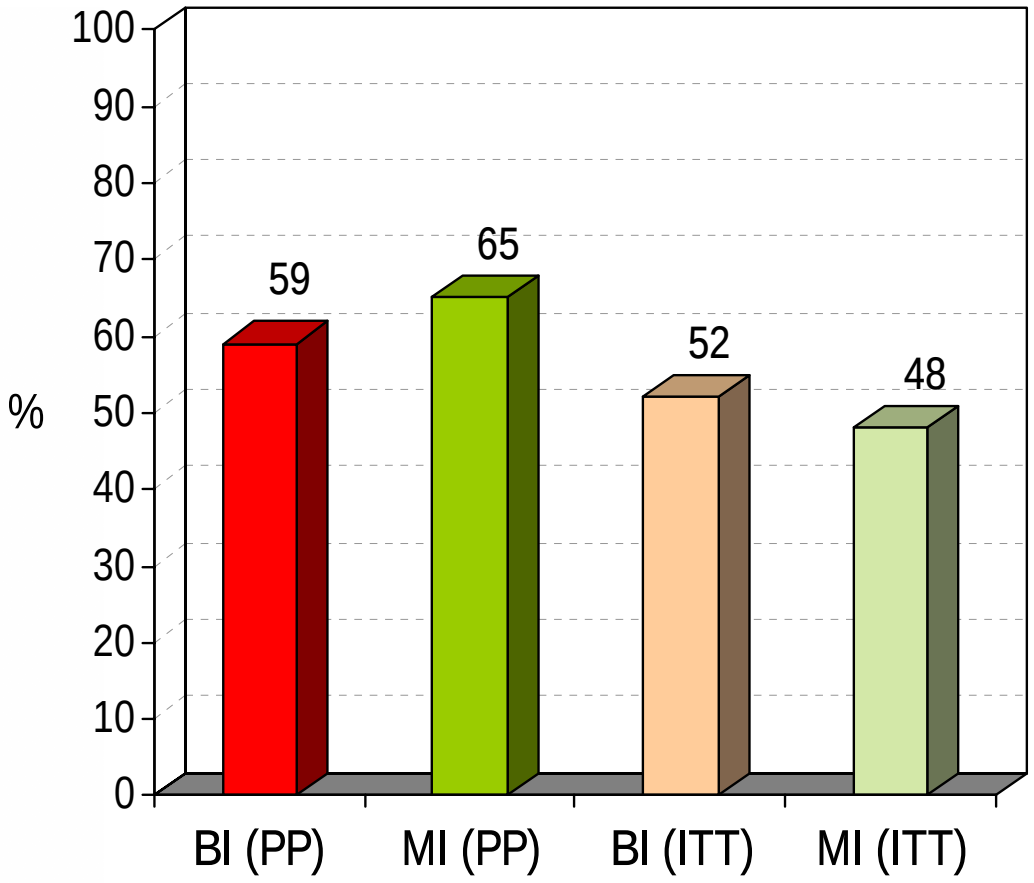


* p< 0.05

p(BI-MI) >0.05

PP N=57 IT N=85

% OF AUDIT-C POSITIVE PATIENTS AT BASELINE WHO ARE NEGATIVE AT MONTH 12

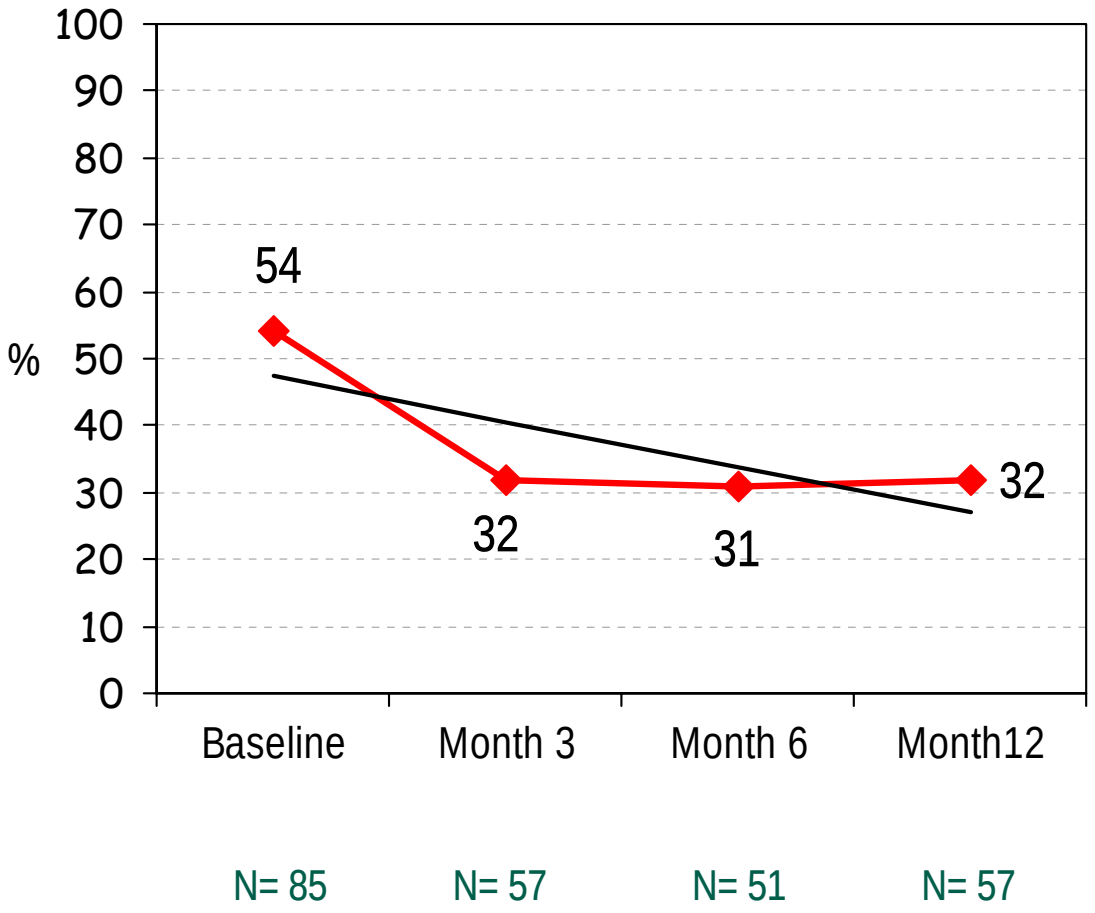


p(BI-MI) > 0.05

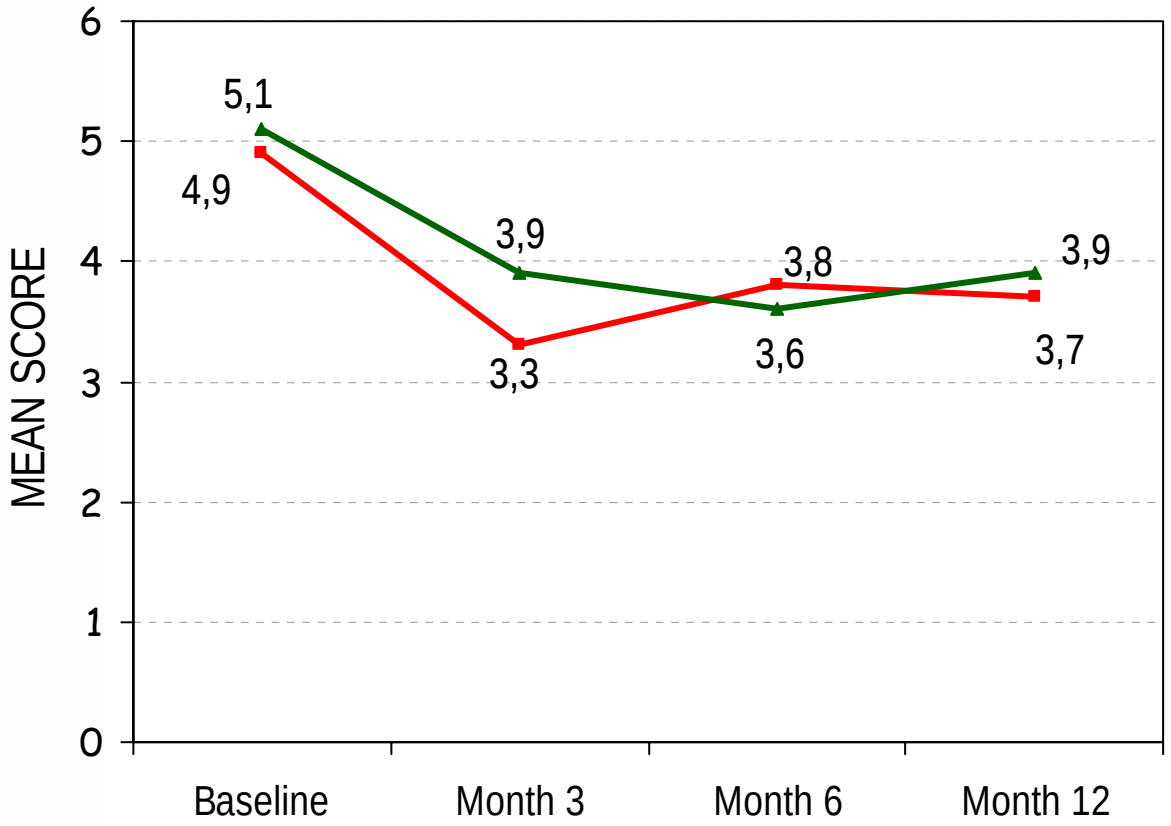
PP N=34

ITT N=46

TREND OF THE % OF AUDIT-C POSITIVE PATIENTS (HAZARDOUS DRINKERS) (PP)



EVOLUTION OF AUDIT_C SCORE BY INTERVENTION GROUP (PP, N= 45)



pMI(base-3m)<0.05

pMI (base-6m)<0.05

pMI (base-12m)<0.05

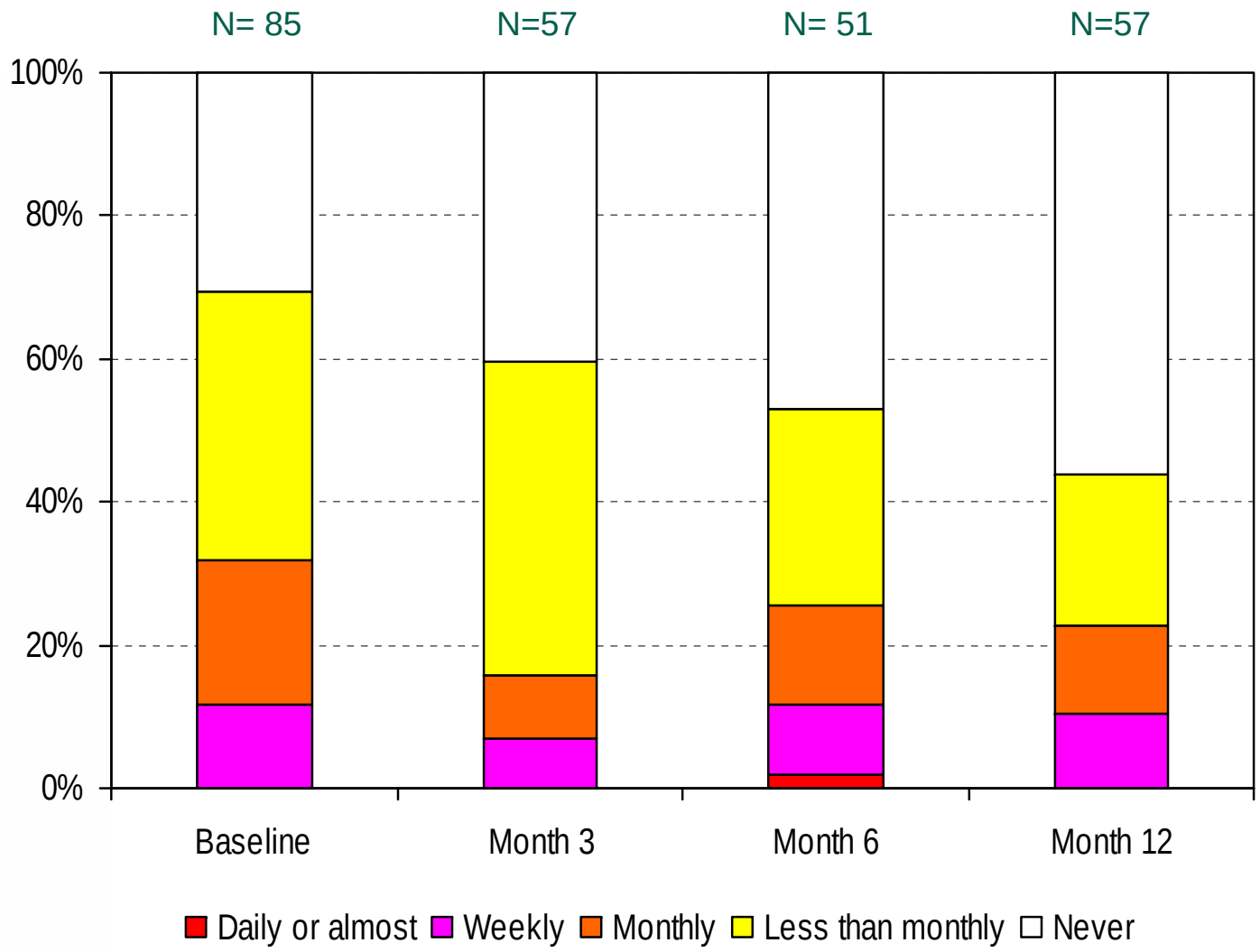
pBI(base-3m)<0.05

pBI(base-6m)<0.001

pBI(base-12m)<0.05

How often do you have 6 or more drinks on one occasion?

Distribution (%) of answers.



EVOLUTION OF THE ACCIDENTS' RATE AT 1 YEAR (PER PROTOCOL) N= 57

20 (35%) had a MVC 1 year BEFORE the one causing the study entrance

8 (14%) had a MVC 1 year AFTER the one causing the study entrance

3 had a MVC 1 year BEFORE and AFTER

(37.5% reincidence)

There was a 60% reduction in the acccidents' rate between baseline and month 12 (P<0,05), although the small N precludes any conclusion

DISCUSSION (I)

At 1 year follow-up (analysis PP)

- 67% of patients reduced consumption
- The percentage of hazardous drinkers was reduced by 47%
- 62% of AUDIT-C positive (hazardous drinkers) became negative
- The mean reduction (all patients) was 23.4%
- The reduction among patients who dropped was 56%
- Significant reduction ($p < 0.05$) in consumption between baseline and month 3,6 and 12, and of accidents, at 1 year time

DISCUSSION (II)

Effectiveness of BI compared with MI

There are no significant differences between both groups by any of the parameters analysed (PP and ITT) and in any follow-up period.

Are both BI and MI equally effective or ineffective?

Significant reductions are common after injuries, also in controls but they tend to be transitory. Persistence and amount of change suggest a real effect of both interventions.

Injury is a motivating factor for change and the post-MVC phase is a teachable moment for a simple advice.

DISCUSSION (III)

Baseline AUDIT /AUDIT-C + patients improved significantly more than the negative ones: some degree of problems is needed for benefiting from the intervention.

Sustained changes may be attributed to the combined effect of the MVC, the intervention, the patient's alcohol problems and their readiness to change.

AFTER A MVC, THERE IS AN OPPORTUNITY FOR A SIMPLE SUCCESSFUL INTERVENTION WHICH SHOULDN'T BE MISSED