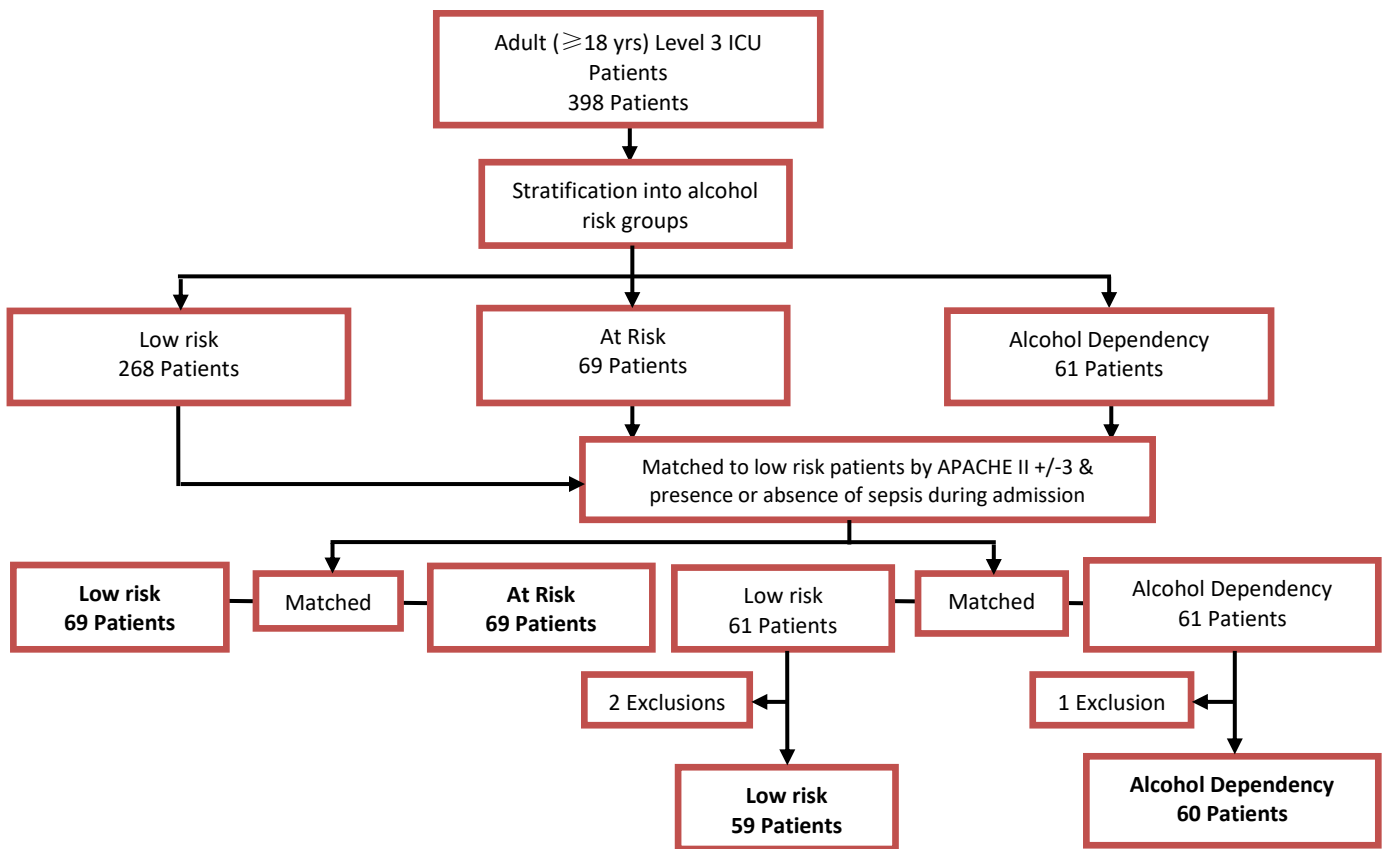# Appendix/Supplementary Material

Criteria used to identify and stratify ICU patients into three risk categories for alcohol use and related physiological and psychological effects

Alcohol Risk Cohort	FAST Score Criteria	Criteria (Based on WHO & SIGN Guidelines)
No Risk/ Low Risk	0-2	Consume no alcohol Have experienced no or minimal harm as a result of alcohol use.
At RIsk	3-8	• Alcohol is responsible for or has substantially contributed to physical or psychological harm, including impaired judgement or dysfunctional behaviour • The nature of harm is clearly identifiable (i.e. falls/ absence from work) • The pattern has persisted for at least one month previous to admission or has occurred repeatedly within a 12 month period.
Alcohol-dependence	9-16	At least 3 of the following present: • A strong desire or sense of compulsion to take alcohol • Difficulty in controlling drinking in terms of: onset, termination or level of use • A physiological *withdrawal* state is present when drinking has ceased or been reduced • Drinking to relieve or avoid withdrawal symptoms • Evidence of *tolerance*, such that increased doses of alcohol are required in order to achieve effects originally produced by lower amounts (examples are when individuals take daily doses sufficient to incapacitate or severely hurt non-tolerant users) • Preoccupation with alcohol use to the detriment of other interests (e.g. social or occupational) • Persistent alcohol use despite awareness of harmful consequences, such as physical harm (liver impairment), depressive mood states consequent to periods of heavy drinking, or alcohol related impairment of cognitive function.

Stratification & matching strategy

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                    ┌──────────────────────────┐
                    │  Adult (≥18 yrs) Level 3 ICU │
                    │        Patients          │
                    │      398 Patients        │
                    └────────────┬─────────────┘
                                 │
                    ┌────────────▼─────────────┐
                    │  Stratification into alcohol │
                    │        risk groups       │
                    └────────────┬─────────────┘
          ┌──────────────────────┼──────────────────────┐
          │                      │                      │
┌─────────▼────────┐   ┌─────────▼────────┐   ┌─────────▼──────────┐
│    Low risk      │   │     At Risk      │   │ Alcohol Dependency │
│  268 Patients    │   │   69 Patients    │   │    61 Patients     │
└─────────┬────────┘   └─────────┬────────┘   └─────────┬──────────┘
          │                      │                      │
          │       ┌──────────────▼──────────────────────▼──────────┐
          └──────▶│ Matched to low risk patients by APACHE II +/-3 &│
                  │  presence or absence of sepsis during admission │
                  └──────────────────────┬──────────────────────────┘
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| Low risk 69 Patients | — Matched — | At Risk 69 Patients | Low risk 61 Patients | — Matched — | Alcohol Dependency 61 Patients |

2 Exclusions → Low risk 59 Patients

1 Exclusion → Alcohol Dependency 60 Patients

Bloomsbury Sedation Scale

Score	Term
3	Agitated & restless
2	Awake but uncomfortable
1	Awake but calm
0	Roused by voice
-1	Roused by touch
-2	Roused by painful stimuli
-3	Unrousable
S	Natural sleep
P	Paralysed

Predictive factors related to delirium in 60 alcohol-dependent patients admitted to ICU determined by univariate & multivariate analysis.

Factor	Delirium (n=41)	No Delirium (n=19)	Univariate		Multivariate	
	Median (IQR) or n (%)		Odds Ratio (CI)	p	Odds Ratio (CI)	p
Age (in years)	49 (40-57)	45 (41-58)	1.02 (0.97-1.08)	0.491		
Sex (male)	27 (65.9%)	15 (78.9%)	2.15 (0.60-7.70)	0.238		
Liver disease	26 (63.4%)	10 (52.6%)	1.00 (0.33-2.99)	1.00		
Morphine equivalents (cumulative dose)	381.3 (66.7-2627.1)	40 (0-210)	1.002 (1.00-1.003)	0.041		
Lorazepam equivalents (cumulative dose)	2.5 (0-19.1)	0 (0-0)	1.21 (0.99-1.47)	0.053		
ICU LOS	13 (6-21.5)	2 (2-7)	1.18 (1.06-1.31)	0.002	1.13 (1.00-1.27)	0.043
Sepsis	26 (63.4%)	3 (15.8%)	18.6 (3.8-92.9)	0.0001	5.07 (1.12-23.01)	0.036
No. sedative drugs	4 (4-6)	4 (2-4)	1.60 (1.15-2.22)	0.005	1.22 (0.82-1.80)	0.328

LOS: Length of stay; Morphine equivalents include morphine, fentanyl, alfentanil & methadone; Lorazepam equivalents include lorazepam, midazolam, diazepam & temazepam.