

Addressing alcohol dependence¹

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Abstract

*Alcohol dependence is a **complex** phenomenon determined by **numerous interacting factors** including both individual (biological, psychological, psychiatric) and environmental factors. The harmful use of alcohol is **by far the leading risk factor for the overall disease burden measured in DALYs** (disability-adjusted life years) among males aged 15–59. In the EU, 2/3 of treatments for alcohol dependence include psychotherapeutic interventions either exclusively or in combination with pharmaceutical treatment. There are few studies on the efficacy of inpatient treatment programmes. Most studies deal with individuals following daily or weekly outpatient treatment. Member States have a primary responsibility for formulating, implementing, monitoring and evaluating public policies to reduce the harmful use of alcohol. The most expensive interventions are the implementation of screening programmes on primary care and on random breath testing. In populations with high prevalence of alcohol dependence (over 5%, such as Europe and North America), the most effective and cost-effective intervention seems to be taxation. Among populations with lower prevalence of drinkers, taxation is estimated to be less efficient compared to other more targeted policies such as seeking a doctor's brief advice, random breath testing and ban on alcohol advertising.*

Keywords: alcohol abuse, alcohol dependence, alcohol rehabilitation programs, cost-effectiveness, taxation

Foreword

Alcohol is as old as known human history, and so is alcoholism. Political regimes, social customs, scientific and technological advances, even geography have at times determined cultural attitude towards alcohol. On which occasions do people drink? How much? What do they drink? There is a cultural ambivalence around alcohol, and that certainly exacerbates the problem (Brown S., 1995).

It was only in the 1950s² that alcoholism was identified as an illness; until then it was merely a demonstration of criminal/violent behaviour, moral failing or lack of willpower that ought to be punished.

Alcohol dependence is a **complex** phenomenon determined by **numerous interacting factors** including both individual (biological, psychological, psychiatric) and environmental factors (intra-family relationships, cultural habits).

The **prevalence** of alcohol dependence was estimated at 5-6% in men and 1-2% in women in Europe; however, the number of alcohol dependent women has been increasing recently. The average time of progression from initial problem drinking to alcohol dependence has been reported to be in the 6 to 8 year range. (European Medicines Agency, 2010).

The harmful use of alcohol brings about significant social and economic losses on individual level as well as on the society as a whole. The harmful use of alcohol is **by far the leading risk factor for the overall disease burden measured in DALYs** (disability-adjusted life years)³ among males aged 15–59 (the subsequent risk factors are unsafe sex,

2 In 1956, the American Medical Association declared that alcoholism was an illness, followed by the American Psychiatric Association in 1965. «Αλκοόλ. Από την εξάρτηση στη θεραπεία». Trans. of "Treating Alcoholism" by Stephanie Brown (Editor), Ed. Ερευνητές, 2011)

3 One DALY can be thought of as one lost year of "healthy" life. The sum of these DALYs across the population, or the burden of disease, can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability.

1 Presented at the Greek Parliament on 10 December 2014, in the framework of a day dedicated to "Safeguarding against Substance Abuse is a Human Right" (In Greek: Ανθρώπινο Δικαίωμα η Προστασία από τις Εξαρτήσεις)

tobacco use, high blood glucose levels, occupational risks, high blood pressure, high cholesterol levels, physical inactivity and iron deficiency) (WHO, Global status report on alcohol and health, 2011). Also 5.1% of the global burden of disease and injury is attributable to alcohol, as measured in disability adjusted life years (DALYs) (WHO, 2014)

Let me give you here a few numbers to demonstrate the size of the negative impact of alcohol abuse:

The harmful use of alcohol is a component cause of **more than 200 disease** and injury conditions in individuals. (WHO, 2014)

About 3.3 million deaths, or 5.9% of all global **deaths**, were attributable to alcohol consumption. From 20 to 39 years old, about 25% of total deaths are attributable to alcohol (WHO, 2014)

In Greece, 1 out of 3 (34%) pupils aged 13-19 years old have got drunk at least once in their life and 13.3% at least 3 times in their life (Greek Documentation and Monitoring Centre for Drugs – Annual Report 2012)

The percentage of **comorbidity** in literature can reach 70% (Mellos E., 2009, Regier DA et al., 1990, Schuckit M. et al., 1997, Kessler RC & Walters EE., 2002). Based on the results from the Epidemiological Catchment Area Survey (ECA), among the patients with bipolar disorder, 44% suffered from alcohol abuse, 4% of alcohol-dependent patients met the criteria for schizophrenic psychosis, while 5% of men and 19% of women suffered from major depression. Furthermore, other clinical trials also conclude that 80% of alcohol-dependent patients display depressive symptoms with 1/3 of those suffering from major depression (Mellos E., 2009, Schuckit M. et al. 1997, Kessler RC et al., 1996, Kandel DB et al., 2001).

Alcohol treatment

In the EU, 2/3 of treatments for alcohol dependence include **psychotherapeutic interventions** either exclusively or in combination with **pharmaceutical treatment**. Pharmaceutical treatment is used in 50% of the cases while 60% of the drugs are prescribed along psychotherapy. (Rehm et al., 2012) Special medicines used in chronic alcoholism are the following: naltrexone, acamprosate, antabuse and nalmefene.

Alcohol treatment programmes in greece

In Greece, there are (i) **six outpatient programmes**: (a) the two-year Outpatient Programme at the Athens Psychiatric Hospital (APH), (b) the DANAE Outpatient Day Treatment Programme (APH), (c) the ATHENA Treatment Programme of the Athens University Psychiatric Clinic and OKANA anti-drug centres, (d) the Counseling Station and the Treatment Unit for people with alcohol, drug and gambling addiction at the Thessaloniki Psychiatric Hospital (TPH), (e) the METHEXIS Outpatient Psychiatric Treatment Centre, Treatment Unit for people with alcohol, drug and gambling addiction at TPH, (f) the ALFA Treatment Programme for alcohol and gambling addiction (KETHEA - Therapy Centre for Dependent Individuals) and (ii) **two inpatient programmes**: (a) the Alcoholics Treatment Community, Psychological Support Alcohol Dependence Treatment Unit 18 ANO (APH) and (b) the Short Duration Inpatient Alcohol Treatment Programme with the use of naltrexone at the 10th Ward of Alcoholics (APH). In 2010, a total of 1,389 individuals addicted to alcohol participated in the afore-mentioned treatment programmes displaying a steady increase in the rates of those who entered their main therapeutic phase within the past three years (2010, 2009, 2008). (Greek Documentation and Monitoring Centre for Drugs Annual Report, 2011).

Programme Efficacy

It is interesting to examine the efficacy of these alcohol treatment programmes since various intervention methods are recommended (treatment communities, behavioural-knowledge interventions, special pharmaceutical treatment, outpatient programmes, day centres, etc). There are few studies on the efficacy of inpatient treatment programmes. Most studies deal with individuals following daily or weekly outpatient treatment (Beasley et al., 1991, Ehrenreich et al., 1997, Stinchfield et al., 1998). As different therapy approaches are used in various alcohol treatment programmes, it is difficult to attempt a comparison and the results vary.

A study (Nedo D., 2011) where the authors describe the results observed in 124 sequentially admitted subjects at various points throughout the course of the first year after their discharge from the Southern Regional Alcohol-Abuse Treatment Centre

(CRAS) in Lisbon, Portugal with inpatient stay for 5 and 7 weeks, showed that at the end of the year under study 44.3% of the patients were still abstinent, 40.3% were consuming alcohol and 15.4% did not reply.

A study of the inpatient alcohol treatment programme 18 Ano (where inpatient stay lasts at least 6 months) showed that in the period 1996-2008, 56.3% of the patients were still abstinent after their discharge and for an average period of 5 years. (Mitsonis et al., 2010).

The results of a study on the efficacy of the short duration inpatient alcohol treatment programme with the use of naltrexone at the 10th Ward of Alcoholics (APH) during the years 1997-2010 are deemed quite satisfactory: In terms of abstinence levels, patients who completed our social rehabilitation programme at a range of 53.95-55.77%⁴ and patients who completed our inpatient programme at a range of 46.31-50%⁵ remained abstinent, without relapse. (Segredou et al., 2014).

Measures to reduce the burden from the harmful use of alcohol on a socioeconomic level

Member States have a primary responsibility for formulating, implementing, monitoring and evaluating public policies to reduce the harmful use of alcohol (WHO, 2014). A substantial body of knowledge has accumulated during recent years on the effectiveness and cost-effectiveness of the following policy options:

- 1) Regulate marketing on alcoholic beverages (especially to young persons)
- 2) Regulate and control alcohol availability. A number of states have suggested to enforce restrictions on hours and days of alcohol sales (Latimer N et al.)
- 3) Apply restrictions on alcohol advertising –

ensure compliance with the 70:30 rule according to which an advertisement is placed in media where a minimum of 70% of the audience is of legal purchasing age

- 4) Adopt appropriate laws on drink-driving
- 5) Regulate the demand for alcoholic beverages through tax and pricing policies
- 6) Raise awareness on public health problems caused by the harmful use of alcohol and ensure support in implementing effective alcohol policies/training programmes addressed to specific groups such as minors, parents, teachers, local leaders
- 7) Provide accessible and affordable treatments for persons with alcohol use disorder
- 8) Ensure that healthcare services provide primary care screening and brief interventions for hazardous and harmful drinking to specific groups (such as adolescents, persons suffering from liver diseases or substance use, persons with aggravated physical health who visit doctors for a diagnosis on somatic illnesses).

On the whole, the most expensive interventions are the implementation of screening programmes on primary care and on random breath testing. In populations with high prevalence of alcohol dependence (over 5%, such as Europe and North America), the most effective and cost-effective intervention seems to be taxation. Among populations with lower prevalence of drinkers, taxation is estimated to be less efficient compared to other more targeted policies such as seeking a doctor's brief advice, random breath testing and ban on alcohol advertising (Chisholm et al., 2014). In a study conducted in Denmark, it was reported that interventions targeting the whole population were more effective than individual-focused interventions. A ban on alcohol advertising, limited hours of retail sale and increased taxation had the highest probability of being cost-saving and should thus be first priority for implementation of alcohol countermeasures (Holm et al., 2014b).

Especially in terms of regulating alcohol consumption for younger persons, some countries have implemented laws on off-premise alcohol outlets. Of course, in such cases, compliance with the legal age limits for selling alcohol proves to be rather low. It has been suggested to implement a remote age verification systems in liquor stores; however, only a few European countries have made efforts to sell off-premise drinks with 15% alcohol or more only through liquor stores. In the Netherlands, a programme has been piloted to verify remotely the age

4 More specifically, they included information such as: 53.95% for individuals who completed rehabilitation 2-5 years ago; 55.77% for individuals who completed rehabilitation 5 or more years ago; and 55.00% for individuals who completed rehabilitation less than 2 years ago.

5 More specifically, they included information such as: 46.31% for individuals who completed the inpatient programme 5 or more years ago; 46.34% for individuals who completed the inpatient programme 2-5 years ago; and 50.00% for individuals who completed the inpatient programme less than 2 years ago.

of customers. The results of this programme amounted to an average ratio of 1.12 underage alcohol purchase attempts per sales day in each participating liquor store⁶. Scaling up to a national level, the figures suggest at least 1 million underage alcohol purchase attempts per year in Dutch liquor stores. Undoubtedly, adopting such a system on a voluntary basis is generally not in the economic interest of the liquor stores. (Van Hoof JJ & Van Velthoven BC, 2014)

There is a large global interest on the implementation of brief interventions and alcohol screening in primary care (Babor et al., 2003) The first results in the UK have been positive (Purshouse R et al., 2013⁷) as well as in Italy (Angus et al., 2014⁸). They are estimated to be cost-effective, under all but the most pessimistic assumptions for programme costs and effectiveness. Surely these programmes are of long-term reaching a few decades. It is appropriate to conduct more studies aimed at identifying special categories of larger alcohol consumption and, therefore,

more effective implementation of brief interventions and screening programmes (such as taking into account socioeconomic status, nationality and other factors).

In terms of the increased taxation on alcohol beverages based on a research conducted in Denmark, the scenarios of 20% and 100% increase and 10% decrease in taxation could avert 20,000 DALY and 95,500 DALY respectively. The tax decrease scenario would lead to 10,100 added DALYs. (Holm et al., 2014a)

Unfortunately, we, healthcare professionals who are familiar with alcoholism and dependence in general have to admit that treatment for alcohol dependence is neither brief nor short-termed. The recovery process is a long one. Only with the patient's full engagement can treatment be achieved. What's more, it usually takes a long time before the alcohol-dependent person reaches the point where he actually wishes to quit alcohol.

"No matter what kind of policy or programme is implemented, people are still going to get into trouble with alcohol by drinking too much or being defined as dependent on alcohol. Here, the evidence is clear that both brief advice programmes for people with risky drinking habits and treatment programmes for those with alcohol use disorders can make an enormous difference. The remaining problem, albeit a very large one, is implementation: the vast majority (somewhere between 90% and 95%) of those who could benefit from brief advice or treatment simply do not get offered them. This remains a great challenge to the health care sector" [Alcohol in EU – consumption, harm and policy approaches. WHO Europe 2012]

Darwin had said that "it is not the strongest of the species that survives nor the most intelligent that sur-

6 Data used came from 67 liquor stores that adopted a remote age verification system, in 2011, in the Netherlands. A remote validator judges the customer's age using camera footage and asks for an ID if there is any doubt. The system then sends a signal to the cash register, which approves or rejects the alcohol purchase.

7 The registration approach, delivered by a practice nurse, provides modest cost savings to the health care system of £120 m over 30 years. Health gains over the same period amount to 32,000 quality-adjusted life years (QALYs). This programme still appears cost-effective (at £6900 per QALY gained) compared with no programme, under pessimistic effectiveness assumptions. Switching to a consultation approach, delivered by a doctor, would incur an incremental net cost of £108 m, with incremental health gains equivalent to 92,000 QALYs, giving an incremental cost-effectiveness ratio of £1175 per QALY gained compared with current practice.

8 The screening and brief interventions programme was implemented in Italy for 10 years and a 30-year lifetime, so as to be able to estimate its full possible impact on health. Respondents were categorized based on age, gender and alcohol consumption. The samples were chosen randomly. Data about sample information on alcohol consumption (quantity/frequency) of diseases associated with alcohol consumption, morbidity and mortality. Hospital costs, the cost of briefing materials provided to the patient and the cost of the GPs' time were estimated. The scenario of using different screening tools, such as the full AUDIT questionnaire, or AUDIT-C pre-screen and FAST was also examined. The programme showed estimated ICERs of

€550/Quality Adjusted Life Year (QALY) at next GP registration and €590/QALY for SBI at next GP consultation.

[The incremental cost-effectiveness ratio (ICER) is the ratio of the change in costs to incremental benefits of a therapeutic intervention or treatment. The equation for ICER is: $ICER = (C1 - C2) / (E1 - E2)$ where C1 and E1 are the cost and effect in the intervention or treatment group and where C2 and E2 are the cost and effect in the control care group. The quality-adjusted life-year (QALY) is a measure of disease burden, including both the quality and the quantity of life lived. It is used in assessing the value for money of a medical intervention. The QALY is based on the number of years of life that would be added by the intervention.]

vives. It is the one that is most adaptable to change"⁹. Therapy is a challenge that reinforces adaptability. And since this day is dedicated to the human right to alcohol treatment, one could also speak about the right of the alcohol-dependent person to be able to adapt in an environment full of adversities, and ultimately, to their right to survive...

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⁹ 'It is not the strongest of the species that survives nor the most intelligent that survives. It is the one that is most adaptable to change.' Charles Darwin (1809–1882)

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