Co-occurring depression and alcohol-use disorders in South-East Asia: a narrative review

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Abstract
Depression and alcohol-use disorders frequently co-occur and the presence of one augments the adverse consequences of the other. This article reviews and synthesizes the available literature on depression and alcohol-use disorders from the World Health Organization (WHO) South-East Asia Region, with respect to epidemiology, screening instruments, interventions and services, and policy. In common with other low- and middle-income settings, data from this region on co-occurring depression and alcohol-use disorders are scarce. The wide variations in language and cultural diversity within the countries of this region further make the identification and management of people with co-occurring depression and alcohol-use disorders a major challenge. A range of interventions for individuals with the two disorders have been studied. However, most of this work has been done in high-income countries, highlighting the need to explore the effectiveness and cost effectiveness of various pharmacological and non-pharmacological interventions in the WHO South-East Asia Region. Much of this region comprises low-resource settings, with a dearth of trained personnel and resources. Flexible transdiagnostic approaches, delivered by community health workers and integrated into primary health care may be a pragmatic approach. Such services should form part of strengthened national responses to alcohol-related public health problems across the region.

Keywords: alcohol, alcohol-use disorders, co-occurring disorders, depression, dual disorders, South-East Asia

Background
According to the Global Burden of Disease study 2015, the contribution of mental and substance-use disorders to global disability is enormous – 18.4% of the total years lived with disability (YLDs).1 Depression disorders were the third-leading cause of disability in 2015, contributing about 6.86% of total YLDs, while alcohol-use disorders were ranked 28th, contributing a mean of 0.8% to the all-cause YLDs.1 Clinical experience, as well as published literature, indicates frequent co-occurrence of depression and alcohol-use disorders. The presence of either of the disorders is associated with a doubling of the risk of the other one.2 The lifetime prevalence of alcohol-use disorders in people with major depressive disorders has been reported to be as high as 40%.2 Among people with alcohol-use disorders, the prevalence of depression has been reported to be as high as 35%.2 A meta-analysis of such studies reported a pooled comorbidity odds ratio of 2.42 (95% confidence interval [CI]: 2.22–2.64) for major depression and alcohol-use disorders.3 The two disorders are also thought to share a causal association, as the frequency of their co-occurrence is higher than might be expected by chance.4,5 Co-occurrence of these two disorders is also known to augment the adverse consequences of each individual disorder; for example, depression predicts poor treatment response and higher rates of relapse in alcohol-use disorders, while alcohol-use disorders are associated with higher rates of suicide among patients with depression.7,8

There is a high prevalence of both depression and alcohol-use disorders in low- and middle-income countries. Both cause significant distress to individuals and their families.9,10 There is a need to develop effective and comprehensive management options that target both depression and alcohol-use disorders and are well integrated within the health-care infrastructure of these countries. This article reviews the available evidence on co-occurring depression and alcohol-use disorders from the World Health Organization (WHO) South-East Asia Region.

Methodology
This narrative review focuses on the literature available from the Member States of the WHO South-East Asia Region. Three search engines were used for the review: PubMed, WHO online repository and Google Scholar. A PubMed search was conducted with the search terms “alcohol AND depression AND (SEAR OR south east Asia OR south Asia OR India OR Bangladesh OR Nepal OR Bhutan OR Myanmar OR Thailand OR Sri Lanka OR Maldives OR Indonesia OR Timor-Leste OR Korea)”, for relevant studies on epidemiology and screening and management strategies for co-occurring alcohol-use disorders and depression. Searches on the WHO online repository and Google Scholar were conducted to identify the relevant WHO publications or data provided by governments of countries of the South-East Asia Region. The keywords used were: “alcohol”, “depression”, “WHO”, “World
Health Organization”, “SEAR”, “south east Asia”, “south Asia”, “Bangladesh”, “Bhutan”, “India”, “Indonesia”, “Korea”, “Maldives”, “Myanmar”, “Nepal”, “Sri Lanka”, “Thailand”, “Timor-Leste”, in various combinations. Back references from articles were accessed wherever deemed necessary. Studies on alcohol policy were searched through Google Scholar. The search terms used were: “alcohol”, “policy”, “legislation”, “SEAR”, “south east Asia”, “south Asia”, “Bangladesh”, “Bhutan”, “India”, “Indonesia”, “Korea”, “Maldives”, “Myanmar”, “Nepal”, “Sri Lanka”, “Thailand”, “Timor-Leste”, in various combinations. All relevant search results of iterations with the term “Korea” were individually sorted by the authors to include literature only from the Democratic People’s Republic of Korea, which is a Member State of the WHO South-East Asia Region. The abstracts and documents were examined by two authors (PG and DE) and all relevant resource material was selected. The review includes studies up to and including October 2016.

Results

Epidemiology
While the highest levels of alcohol consumption per capita are found in high-income countries, the WHO South-East Asia Region has recorded one of the lowest levels of consumption (in 2010 – India: 2.5–4.9 L per capita; Bangladesh, Bhutan, Myanmar, Nepal: <2.5 L per capita). However, the disease burden per litre of alcohol consumed in low- and middle-income countries, such as all the Member States of the South-East Asia Region, is more than in high-income countries. Moreover, an increase in the alcohol consumption per capita has been noted from 2003–2005 to 2008–2010 in India (3.6 L to 4.3 L) and Sri Lanka (2.2 L to 3.7 L), the two countries that are home to the majority of the population of this region, and estimates project a further increase by 2025.

There is a dearth of epidemiological studies on co-occurring depression and alcohol-use disorders from the WHO South-East Asia Region (see Table 1). This section compiles the studies available from countries of the region that have measured rates of depression and alcohol-use disorders in the same population, or looked at rates of co-occurrence among these two disorders, or looked into the association of one disorder with the other.

Studies among a general adult population
The National Mental Health Survey of India, conducted in the general population in 12 Indian states (n = 34 802), reported the prevalence of depressive disorders as 2.7% and that of alcohol-use disorders (by use of the Mini International Neuropsychiatric Interview [MINI]) as 4.6%. Findings from the Thai National Mental Health Survey (n = 17 140) reported the prevalence of alcohol-use disorders (MINI) and major depression as 11.7% and 2.2% respectively. In the same survey, individuals with alcohol-use disorders were found to have significantly increased risk of depression. Another general-population-based survey from India (n = 3033) reported the prevalence of alcohol dependence (MINI) as 3.95% and depressive disorders as 14.82%. Jonas et al. (2014), in a community-based survey in India, found the rate of alcohol dependence (by use of the Alcohol Use Disorders Identification Test [AUDIT]) was 4.63%, and that of mild-to-moderate and major depression (by use of the Center for Epidemiologic Studies Depression Scale [CES-D]) was 39.6% and 13%, respectively.

Two general-population-based studies from India using AUDIT, from Chennai (n = 1053) and Madhya Pradesh (n = 3220), found an increased risk of depression among men who had alcohol-use disorders. The prevalence rates of alcohol-use disorders (hazardous drinking, harmful drinking, dependent drinking) differed between the studies, as did the cut-off scores for AUDIT.

Studies among populations with alcohol-use disorders
In studies among populations of individuals with alcohol-use disorders, a high prevalence of depression was found among inpatient clients in de-addiction centres, attendees of Alcoholics Anonymous, female sex workers, army personnel with alcohol dependence, and other populations with alcohol-use disorders. These studies were conducted in India and Nepal, as well as in populations of Indian and African ancestry living in Trinidad and Tobago. Depressive disorders were commonly diagnosed co-occurring disorders among individuals with alcohol-use disorders seeking treatment from the national de-addiction centre in India.

Studies among populations at high risk of alcohol-use disorders and depression
One study conducted among men who have sex with men and transgender women reported a high prevalence of co-occurring depression and frequent alcohol use. Another study among female sex workers from India found a high likelihood of having depression among those who had consumed alcohol in the last 30 days. One study among 129 Indian IT professionals reported that subjects who were professionally stressed or were at risk of developing depression had a higher prevalence of harmful alcohol use. Another study in Thailand, among methamphetamine users or their sexual partners, found alcohol-use disorders were associated with high levels of depression in men. Moreover, in studies on people from Thailand or India, respectively, who attempted (n = 110) or died by suicide (n = 100), high rates of alcohol-use disorders were found, though only one of these studies commented upon the prevalence of depression among the subjects.

A secondary analysis of the Global School-Based Student Health Survey indicated that, among 13–15 year olds in Indonesia, Myanmar and Thailand, 2.5%, 3.0% and 23.9%, respectively, had experienced at least one episode of drunkenness in their lifetime. Also, 23.3%, 16.5% and 16.7% of students in Indonesia, Myanmar and Thailand, respectively, had experienced an episode of depression in the past 12 months. Overall, only a few epidemiological studies have assessed the co-occurrence of depression and alcohol-use disorders in the WHO South-East Asia Region. Some of these have been compiled in previously published narrative reviews. Some suggest that there is an increased risk of depression among persons with alcohol-use disorders, the extent of which remains unclear. Also, none of the studies in the present review commented upon alcohol-use disorders in individuals with depression. A variety of measures for depression and alcohol-use disorders have been used in the studies; for example, harmful alcohol use has been variously measured as alcohol dependence, harmful or hazardous alcohol use, alcohol abuse,
Table 1. Epidemiological studies reporting the rates and associations of alcohol use and depression from the World Health Organization South-East Asia Region

<table>
<thead>
<tr>
<th>Author, year, country</th>
<th>Population characteristics</th>
<th>Prevalence (assessment tool, where recorded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Mental Health Survey of India, 2015–16; India</td>
<td>General adult population from 12 states, n = 34 802</td>
<td>Prevalence of alcohol-use disorders (MINI) = 4.6%</td>
</tr>
<tr>
<td>Suttajit et al., 2012; Thailand</td>
<td>Stratified 3-stage random sampling in lay community health workers, general population aged 15–59 years, n = 17 140</td>
<td>11.7% had alcohol-use disorders (MINI) Individuals with alcohol-use disorders had significantly increased risks of major depressive disorder (OR: 2.49; 95% CI: 1.76–3.53 in men and OR: 4.09; 95% CI: 2.31–7.26 in women)</td>
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<tr>
<td>Sathyanarayana Rao et al., 2014; India</td>
<td>Population-based door-to-door survey, n = 3033</td>
<td>Prevalence of alcohol dependence (MINI) = 3.95%</td>
</tr>
<tr>
<td>Jonas et al., 2014; India</td>
<td>4711 subjects aged &gt;30 years from the community</td>
<td>Hazardous drinking (AUDIT) = 6% Alcohol dependence (AUDIT) = 4.63% Moderate to-moderate depression (CES-D) = 39.6% Major depression (CES-D) = 13%</td>
</tr>
<tr>
<td>Gupta et al., 2015; India</td>
<td>Community-based cross-sectional study in 259 households, n = 1053 (510 men)</td>
<td>Harmful or hazardous alcohol use was seen in 12.7%, while alcohol dependence was seen in 26.5% (AUDIT) A 2.5-fold increase in depression (PHQ-9) was seen in men who were alcohol dependent compared to non-drinkers</td>
</tr>
<tr>
<td>Rathod et al., 2015; India</td>
<td>Population-based cross-sectional survey in 3220 adults</td>
<td>23.8% of men and 0.6% of women had consumed alcohol in the past 12 months (AUDIT) Among drinkers: ● 33.2% had hazardous drinking ● 3.3% had harmful drinking ● 5.5% had dependent drinking Among men who had consumed alcohol in the past 12 months, for each unit increase in PHQ-9 score (depression severity), the AUDIT score was 5% higher (relative score = 1.05; 95% CI: 1.03–1.07)</td>
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<tr>
<td>Sau et al., 2013; India</td>
<td>284 consecutive inpatient clients at a de-addiction centre</td>
<td>38.3% were currently abusing alcohol 30.6% had depression</td>
</tr>
<tr>
<td>Khalid et al., 2000; Nepal</td>
<td>34 alcohol-dependent (DSM-IV) patients admitted in psychiatry ward</td>
<td>41.7% had major depression for the episode of drinking that led to hospitalization Only 17.64% had major depression a few days after detoxification There was no correlation between the severity of alcohol dependence and depression (SADQ and HRSD, respectively)</td>
</tr>
<tr>
<td>Neupane et al., 2013; Nepal</td>
<td>188 consecutively admitted patients with alcohol-use disorders in eight residential alcohol treatment units</td>
<td>AUDIT used Lifetime and 12-month prevalence of major depression (WHO CIDI 2.1) were 45% and 36%, respectively</td>
</tr>
<tr>
<td>Saxena and Mital, 2011; India</td>
<td>1-month follow-up study on 50 attendees of Alcoholics Anonymous, all with a diagnosis of alcohol dependence</td>
<td>Baseline drinking data were not provided 24 had abstained at the 1-month follow-up 30 had depression (HRSD) Depression did not affect abstinence</td>
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<tr>
<td>Pandiyan et al., 2012; India</td>
<td>100 commercial sex workers aged 30–40 years, all with alcohol abuse</td>
<td>78 had psychological morbidity (depression and adjustment disorder)</td>
</tr>
<tr>
<td>Raju et al., 2002; India</td>
<td>173 alcohol-dependent army personnel</td>
<td>4.62% had depression 6.93% had deliberate self-harm</td>
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<tr>
<td>Shafe et al., 2009; study conducted in Trinidad and Tobago on a sample of Indian and African individuals</td>
<td>143 alcohol-dependent subjects of Indian (Indo-TT) or African (Afro-TT) ancestry and 109 matched (age, sex and ethnicity) controls</td>
<td>SSAGA was used to diagnose alcohol dependence and depression 41% of Indo-TT and 37% of Afro-TT individuals with African ancestry with alcohol dependence had comorbid major depression independent of alcohol and/or drug use 39% of Indo-TT and 37% of Afro-TT individuals with alcohol dependence had comorbid major depression induced by alcohol or drug use The severity of depression was significantly associated with the severity of alcohol dependence</td>
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</tbody>
</table>
frequent alcohol use, or at least one episode of drunkenness in the lifetime. Even the same construct of dependence has been measured differently when using criteria from standard tools such as AUDIT, MINI and the International Statistical Classification of Diseases and Related Health Problems (ICD-10). Even for the same scale, different cut-off values have been used by different authors. Because of this, it is difficult to draw any conclusions based on the limited available literature, and the need for use of well-validated and standardized measuring instruments cannot be overstated.

Screening instruments for depression and alcohol-use disorders

A wide gap is apparent between mental health needs and service delivery in low- and middle-income countries. A considerable proportion of this can be attributed to the low rates

<table>
<thead>
<tr>
<th>Author, year, country</th>
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<th>Alcohol</th>
<th>Depression</th>
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<tbody>
<tr>
<td>Pradhan et al., 2008; Nepal²⁵</td>
<td>53 inpatients with ICD-10 diagnosis of mental and behavioural disorder due to use of alcohol</td>
<td>94.3% were having a depressive episode</td>
<td>11.3% were having a severe depressive episode (HRSD)</td>
</tr>
<tr>
<td>Balhara et al., 2016; India²⁶</td>
<td>492 patients of the dual diagnosis clinic of the National Drug Dependence Treatment Centre</td>
<td>45.5% used alcohol in dependent pattern</td>
<td>27.5% had depressive disorders</td>
</tr>
<tr>
<td>Chakrapani et al., 2015; India²⁷</td>
<td>300 men who have sex with men (MSM) and 300 transgender women (TGW) recruited from four states</td>
<td>There was high prevalence of co-occurring psychosocial health conditions (depression, frequent alcohol use and victimization) in both groups</td>
<td></td>
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<tr>
<td>Patel et al., 2015; India²⁸</td>
<td>Cross-sectional survey in 1986 female sex workers</td>
<td>The likelihood of experiencing depression was significantly higher in those who had consumed alcohol in the past 30 days (52% versus 28%, adjusted OR: 2.7; 95% CI: 2.0–3.5)</td>
<td>39% were found to have major depression</td>
</tr>
<tr>
<td>Darshan et al., 2013; India²⁹</td>
<td>129 IT professionals</td>
<td>Subjects who were professionally stressed had 5.9 times higher prevalence of harmful alcohol use compared to those who were not stressed. Subjects who were at risk for developing depression had 4.1 times higher prevalence of harmful alcohol use than those who were not at risk for developing depression</td>
<td>51.2% were professionally stressed and 43.4% were at risk for developing depression</td>
</tr>
<tr>
<td>Celentano et al., 2008; Thailand³⁰</td>
<td>1189 subjects aged 18–25 years who were recent methamphetamine users or were sexual partners of methamphetamine users</td>
<td>Problem alcohol use (CAGE) was associated with high levels of depressive symptoms in men but not in women</td>
<td>45% of women and 31% of men had high levels of depressive symptoms (CES-D)</td>
</tr>
<tr>
<td>Suppapitiporn, 2005; Thailand³¹</td>
<td>110 adults who had attempted suicide who received psychiatric attention, and had clinical depression without psychotic symptoms</td>
<td>33% had co-occurring alcohol-use disorder, out of which 12.7% had alcohol dependence</td>
<td>Not reported</td>
</tr>
<tr>
<td>Srivastava, 2013; India³²</td>
<td>Psychological autopsy (semi-structured questionnaire based on ICD-10) of 100 people who had died by suicide</td>
<td>42% had alcohol-use disorders</td>
<td>54% had depression</td>
</tr>
<tr>
<td>Balogun et al., 2013; 12 low- or middle-income countries including Myanmar, Thailand and Indonesia from the WHO South-East Asia Region³³</td>
<td>32,001 adolescents aged 13–15 years in a nationally representative school-based sample</td>
<td>Alcohol use in the past 30 days:</td>
<td></td>
</tr>
</tbody>
</table>

  - Thailand – 18.1%
  - Myanmar – 1.6%
  - Indonesia – 2.9%

At least one episode of drunkenness in an individual’s lifetime:

  - Thailand – 23.9%
  - Myanmar – 3.0%
  - Indonesia – 2.5%

Depression:

  - Thailand – 16.7%
  - Myanmar – 16.5%
  - Indonesia – 23.3%

Alcohol affected psychological health in all the countries except Myanmar

AUDIT: Alcohol Use Disorders Identification Test; CAGE: questionnaire whose name is an acronym for the questions used to screen for potential alcohol-use disorders; CES-D: Center for Epidemiologic Studies Depression Scale; CI: confidence interval; DSM: Diagnostic and Statistical Manual of Mental Disorders; HRSD: Hamilton Rating Scale for Depression; ICD-10: International Statistical Classification of Diseases and Related Health Problems, 10th revision; MINI: Mini International Neuropsychiatric Interview; OR: odds ratio; PHQ: Patient Health Questionnaire; SADQ: Severity of Alcohol Dependence Questionnaire; SSAGA: Semi Structured Assessment for the Genetics of Alcoholism; WHO: World Health Organization; WHO CIDI: WHO Composite International Diagnostic Interview.
of detection of mental disorders in these countries. Screening instruments that allow rapid assessment of a large number of subjects, with adequate sensitivity and specificity, and that could be administered by lay community health workers with some training, may help in bridging this gap.

A study from India assessed the applicability of five such screening instruments (the Patient Health Questionnaire [PHQ-9], the General Health Questionnaire [GHQ], the Self-Regulation Questionnaire [SRQ], and the Kessler Psychological Distress Scales [K10 and K6]) for common mental disorders, including depression in primary care settings (n = 598). All five instruments showed moderate to high discrimination ability, moderate to high degrees of correlation with one another and good internal consistency, with the GHQ and SRQ showing the best results. The GHQ, SRQ and K6 have also been found to be useful in other low- and middle-income countries. A systematic review of studies from primary health-care settings in low- and middle-income countries (including four studies from India) found that brief screening instruments for depression (K6, K10, the Beck Depression Inventory-Short Form [BDI-SF], PHQ-9, the Edinburgh Postnatal Depression Scale [EPDS], the Clinical Interview Schedule-Revised [CIS-R], GHQ-12) are as accurate as the longer ones (CES-D, BDI, the Hopkins Symptom Checklist [HSCL-25]). A Thai version of the PHQ-9 has also been validated. The CES-D has been validated in older populations from the Democratic People’s Republic of Korea, Indonesia, Myanmar, Sri Lanka and Thailand.

Commonly used alcohol screening questionnaires, AUDIT, and WHO-ASSIST (Alcohol, Smoking and Substance Involvement Screening Test), have been validated in some of the countries of the WHO South-East Asia Region. AUDIT is currently being adapted and translated into Hindi language in India. The CAGE questionnaire is another commonly used alcohol screening instrument that has been validated in high-income countries, while among countries of the WHO South-East Asia Region, the current review found just one study that validated the modified version of CAGE to include other drug use (CAGE-AID) in an Indian population, and another study in a Thai population that found high agreement between written and oral versions of the CAGE questionnaire.

The WHO mhGAP [mental health gap] intervention guide for mental, neurological and substance use disorders in non-specialized health settings provides a comprehensive tool for assessment, identification and management of mental health conditions, which can be administered by non-specialists. It includes flowchart-based modules for nine mental health conditions, including depression and alcohol-use disorders, and is meant for use in primary health-care settings for better integration of mental health with physical health conditions. Such primary care instruments are likely to be useful in low- and middle-income countries, including countries in the WHO South-East Asia Region. However, the majority of literature available on this topic is from high-income countries, with little evidence from the WHO South-East Asia Region.

Pharmacological interventions

Antidepressants: Meta-analyses have shown improved depression as well as alcohol outcomes with tricyclic antidepressants (imipramine, desipramine) and nefazodone. However, in the same studies, selective serotonin reuptake inhibitors (sertraline, fluoxetine, citalopram) were not found to be effective. None of the studies included in these meta-analyses was from the WHO South-East Asia Region. The guidelines on management of co-occurring depression and alcohol-use disorders from this region are also based primarily on evidence generated from the other regions.

No studies for antidepressant use in alcohol-use disorders were found from the WHO South-East Asia Region. Considering the cost–benefit ratio, some studies suggest that sertraline might be the best choice for moderate-to-severe depression, with a best balance between efficacy, acceptability and lower cost, which is quite important for low- and middle-income countries from this region. However, the WHO model list of essential medicines includes only fluoxetine and amitriptyline among the antidepressants, restricting the choice for antidepressant drugs of proven efficacy.

Anti-craving agents: Acamprosate and naltrexone are commonly used anti-craving agents, with proven efficacy for patients with alcohol-use disorders. However, their role in alcohol-use disorders co-occurring with depressive disorders is relatively less studied. A meta-analysis showed that acamprosate improved alcohol-use outcomes, but did not report the primary depression outcomes. Naltrexone has shown mixed findings in clinical trials in a population with co-occurring depression and alcohol-use disorders, with respect to both depression and alcohol outcomes.

No such studies from the South-East Asia Region were found. Acamprosate and naltrexone are not featured in the WHO model list of essential medicines, but they have been recommended by the mhGAP intervention guide.

Disulfiram: Disulfiram is an evidence-based deterrent therapy used in the management of alcohol-use disorders. The present review did not find any studies addressing its efficacy in patients with co-occurring depression. One randomized trial from India found significantly better alcohol outcomes in patients with alcohol dependence who received disulfiram after detoxification, compared to those receiving naltrexone (depression evaluation and outcomes not reported). Disulfiram is not endorsed by the WHO model list of essential medicines, but has been recommended by the mhGAP intervention guide.

Non-pharmacological interventions

Brief intervention: A systematic review of psychological interventions in patients with alcohol misuse co-occurring with depression and anxiety showed that brief interventions improve both alcohol and depression outcomes, though longer interventions (cognitive behavioural therapy [CBT], motivational interviewing [MI], interpersonal therapy [IPT]) produced better results.
A single randomized controlled trial was found from the WHO South-East Asia Region (India), which evaluated the efficacy of brief intervention for alcohol-use disorders in a community-based sample, with promising results, though the participants were not evaluated for depression. The mhGAP intervention guide has included brief interventions among the list of interventions for preventing harmful alcohol use.

### Cognitive behavioural therapy

Various forms of CBT have been used in alcohol-use disorders and depression, including CBT (for depression), CBT + MI (integrated for alcohol-use disorders and depression), and group CBT, and have shown positive effects on both kinds of outcomes. CBT for depression alone has been shown to improve alcohol outcomes in patients with comorbidities. Integrated CBT, which includes interventions focused on both alcohol-use disorders and depression (usually CBT and MI), has also shown significant improvements in both measures, which in some studies has been shown to be better than single-focused strategies.

One such study from Thailand assessed the efficacy of a brief six-session course of CBT for depression among patients with co-occurring alcohol dependence and depression, and found significantly more improvement in depression scores in the CBT group than the group receiving treatment as usual. Studies on integrated CBT + MI were not available from the WHO South-East Asia Region.

### Interpersonal therapy

IPT has shown improvements in both disorders in patients with co-occurring depressive disorders and alcohol-use disorders. However, there was no literature from the WHO South-East Asia Region regarding IPT.

### Self-help groups

Higher attendance at Alcoholics Anonymous has been associated with better outcomes with respect to both alcohol-use disorders and depression among patients with co-occurring alcohol-use disorders and depression. There was no literature from the WHO South-East Asia Region regarding self-help groups. Self-help groups have been included in the recommendations of the mhGap intervention guide.

### Transdiagnostic approach

Transdiagnostic interventions involve a set of common practice elements that can be delivered in varying combinations to address a range of problems. This approach allows for flexibility and adaptation, and treatment may be employed without specifying a disorder classification. Such an approach has been developed for low- and middle-income countries for delivery of community-based mental health treatments through lay counsellors. A randomized controlled trial for this approach (common elements treatment approach) among refugees from Myanmar (survivors of imprisonment, torture or related trauma) in Thailand showed significant improvements in depression, anxiety and post-traumatic stress scores in participants receiving the intervention, compared with waiting-list controls, though the effects for alcohol-use disorders were negligible.

### Service delivery

Low- and middle-income countries in general have a shortfall of mental health specialists. Moreover, most of the qualified professionals in these countries are concentrated in the larger cities. Efforts towards inclusion of the vast majority of the rural population in the provision of treatment rest mostly with the primary health-care team. Thus, the efforts directed toward scaling-up the treatment services need to focus on ensuring the availability of facilities close to all communities. For this, lay community health workers may be trained to deliver health services through “task-shifting” or “task-sharing”. Task-shifting refers to delegating tasks to existing or new cadres with either less training or training that is narrowly tailored for the required services.

The MANAS trial in India aimed to test the effectiveness of an intervention led by lay community health counsellors in primary care settings, to improve the outcomes of people with anxiety and depression. Overall, the trial found a beneficial effect of the intervention on recovery at 6 months. In a recent review focusing on the effectiveness of using lay community health workers in strategies for prevention of mental disorders in low- and middle-income countries, 15 studies were included, with four from South-East Asia (India, Bangladesh). This review provided evidence on the effectiveness of prevention interventions led by lay community health workers, although none of these addressed alcohol-use disorders. Lay community health workers have been reported to be cost effective and easily available, to have more understanding of the cultural contexts of their particular region, and to be able to take up several roles. This warrants a greater role of lay community health workers in the treatment strategies for the countries in the WHO South-East Asia Region. However, it is important to ensure that these workers do not become overburdened, as they already have an enormous workload. Adding more numbers to the existing cadre of these workers would help to address such concerns.

A stepped-care model has been studied in high-income countries and has shown modest efficacy in various mental disorders, although its use for people with co-occurring alcohol-use disorders and depression has not been studied. This model has been proposed for use in low- and middle-income countries. Each step represents an increased complexity of intervention, with a collaborative approach involving three key team members: lay health counsellor, primary care physician, and visiting psychiatrist (clinical specialist), with each playing their own designated role. When such approaches are integrated into the existing framework for other diseases such as HIV, tuberculosis etc., they are likely to lead to better integration of mental health care in primary care, thereby overcoming the stigma surrounding mental disorders and utilizing the existing infrastructure.

### Alcohol policy: Indian and international perspective

Alcohol policy refers to the set of measures in a jurisdiction or society aimed at minimizing the health and social harms from alcohol consumption. Nine (Bhutan, Democratic People’s Republic of Korea, India, Indonesia, Maldives, Nepal, Sri Lanka, Timor-Leste) of the 11 countries in the WHO South-East Asia Region do not have any written national alcohol policies.

The Global strategy to reduce harmful use of alcohol, proposed by WHO, has recommended five areas of action. These include leadership, awareness and commitment; drink–driving countermeasures; regulating availability; marketing restrictions; and reducing the negative consequences of drinking.

A substantial body of knowledge has accumulated on the feasibility, effectiveness and cost effectiveness of different...
policy options. Research findings indicate that population-based policy options, such as the use of taxation to regulate the demand for alcoholic beverages; restricting their availability and implementing bans on alcohol advertising; measures against drunk–driving, such as setting low limits (0.02% to 0.05%) for blood alcohol concentration and enforcing them by random breath testing, are effective in reducing alcohol consumption and alcohol-related harms.\textsuperscript{83,84} Harmful use of alcohol can also be reduced by screening for hazardous and harmful drinking, and providing brief interventions, counselling and pharmacotherapy, as appropriate.\textsuperscript{83,85} Most of this evidence comes from high-income countries, with very little evidence from low- and middle-income countries (including the WHO South-East Asia Region). One study from India found liquor taxation had favourable effects on consumption patterns, and the authors recommended keeping consumption of liquor legal (instead of prohibition) and that the pattern of taxation and pricing should be redesigned such that embedded seller incentives to promote sales volume are removed.\textsuperscript{86} Increasing the costs of liquor by 80–90% through excise taxes was projected to be a viable option to reduce alcohol consumption among rural youth in India.\textsuperscript{87} However, a potential confounder is the easy availability of home-brewed alcohol in India, which remains unaffected by taxation.\textsuperscript{88} Some policy-makers in the region have favoured prohibition or a blanket ban on alcohol products, such as in Maldives and certain states of India (e.g. Gujarat). Experience from other countries, including the United States of America, seems to offer limited support for prohibition. In India, Andhra Pradesh and Haryana repealed their alcohol prohibition laws in the 1990s, while Gujarat continues to have complete prohibition, in place since 1949, and the state of Bihar has adopted prohibition on alcohol in the recent past. The impact of the prohibition on alcohol across different states in India has not been studied systematically. One study from India estimated that the expected reduction in participation in alcohol consumption resulting from prohibition will at most be about 40% of what could be achieved with imposition of a minimum age limit for alcohol purchase of 21 years.\textsuperscript{87} Another study found that prohibition reduced the consumption of arrack (an indigenous distilled alcoholic drink), Indian-made foreign liquor (non-indigenous distilled liquor) and beer in the urban sector in India, but the effects on the rural sector were much lower. Moreover, it had no effect on the consumption of home-brewed alcohol. Also, spill-over effects of prohibition led to increased consumption of other substances like bidi and cigarettes.\textsuperscript{89} Mahal (2000) also reported that benefits are likely to be seen by increasing the minimum age for purchase of alcohol in states where it is 18 years, but there are hardly any gains from increasing the minimum age for purchase of alcohol beyond 21 years; this author therefore recommended setting the minimum age at 21 years rather than 25 years, which is the legal lower limit in certain regions of India.\textsuperscript{87}

All the aforementioned studies are limited by a host of methodological issues like small sample sizes, unaccounted confounders, lack of generalizability, etc. Moreover, it has been seen that similar policies might not ensure similar rates of alcohol consumption across different countries, as shown in a secondary data analysis of the Global School-Based Student Health Survey from 12 low- and middle-income countries, which noted that countries with similar legislation had strikingly different rates of alcohol use among adolescents.\textsuperscript{33} This was attributed to differential enforcement of laws, together with regional, religious and cultural considerations. Evaluation of policy outcomes is complex, and data on policy from India and other countries of the WHO South-East Asia Region are too scarce to be able to generate any credible conclusions about effective measures in a particular sociocultural environment.

To override this problem, WHO is actively involved in strengthening national responses to alcohol-related public health problems. The \textit{Global strategy to reduce harmful use of alcohol},\textsuperscript{82} an initiative by WHO, currently has involvement from 126 Member States, including some from the South-East Asia Region. WHO co-hosted a Global Alcohol Policy Conference, “From the Global alcohol strategy to national and local action”, held in Thailand in February 2012,\textsuperscript{90} which provided a global platform for information exchange, sharing experiences, building partnerships to raise awareness of public health problems attributable to alcohol, and advocating for implementation of the global strategy at all levels. WHO has also developed the Global Information System on Alcohol and Health (GISAH),\textsuperscript{91} a comprehensive internet-based information platform, to make up for the lack of monitoring systems for alcohol-related indicators in most low- and middle-income countries (including the WHO South-East Asia Region).\textsuperscript{11} The data generated from this platform are likely to guide policy-makers in designing effective alcohol-related policies and their proper implementation.

\section*{Discussion}

The contribution of mental disorders and substance-use disorders to global disability is enormous. Frequent co-occurrence of depression and alcohol-use disorders is more than could be expected as a chance association. This co-occurrence is detrimental to the outcome for each disorder, with increased morbidity and disease burden, poor treatment response, high rates of relapse and higher suicide rates.

Epidemiological studies from the WHO South-East Asia Region focusing on co-occurring depression and alcohol-use disorders are few in number. Most of these are from India, followed by Thailand, Nepal, Myanmar and Indonesia. These studies do suggest that both depression and alcohol-use disorders each increase the risk of the other. However, there is limited evidence to comment on the extent or pattern of this association. Variations in the assessment instruments, cut-off points and diagnostic criteria applied also make it difficult to reach firm conclusions and make comparisons across the different studies. There is a need to generate meaningful data on the co-occurrence of depression and alcohol-use disorders from the Member States of the WHO South-East Asia Region.

Screening instruments are a promising tool to aid in the detection of mental disorders and alcohol-use disorders by lay community health workers in resource-poor settings like the nations of the WHO South-East Asia Region. However, lack of availability of these instruments in local language, along with wide regional variations in language and cultural factors, serve as an important barrier to effective screening and detection of this co-occurrence. Translation, adaptation and validation of the commonly used screening instruments in the local languages in the countries of this region can be a major impetus in the early detection and referral of such patients.
This review did not find any studies from Member States of the WHO South-East Asia Region addressing the effectiveness of pharmacological interventions available for depression and alcohol-use disorders. The WHO model list of essential medicines does not include the anti-craving and deterrent agents that are used as the first line of pharmacological intervention worldwide. This could be detrimental to the availability of these medicines in the WHO South-East Asia Region.

There is limited evidence from Member States of the WHO South-East Asia Region on non-pharmacological interventions for co-occurring depression and alcohol-use disorders, with only one study assessing brief intervention and another evaluating CBT. The current review has certain limitations. It has not followed the rigour of a full systematic review and some relevant published studies might have been missed, as the search was limited to three electronic database, i.e. PubMed, WHO online repository and Google Scholar. Also, only English-language publications were included in the review.

Most of the countries of the WHO South-East Asia Region are low-resource settings with significant burden due to depression and alcohol-use disorders. There is a need to explore the effectiveness and cost effectiveness of various pharmacological and non-pharmacological interventions across the region. Also, the interventions for co-occurring depression and alcohol-use disorders need to be integrated into the existing health-care system at various levels of care. Finally, the countries in the region should formulate evidence-supported policy and a legislative framework to address alcohol-use disorders.

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