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Mental Health in the Asia-Pacific Region: An Overview

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Mental health problem is one of the growing major public health issues in the Asia Pacific region. It contributes to the high number of Disability Adjusted Life Years (DALYs), morbidity and mortality in the region. It is expected that leading mental health problems will occur in the low-and middle-income countries (LMICs) and majority of the countries which comes under this category are in the Asia Pacific region. In addition, mental health problem hamper the achievement of Millennium Development Goals (MDGs), particularly MDG 1, MDG 4 and MDG 5. The most common mental health problems in the region are depression, anxiety, post-traumatic stress disorder, suicidal behaviour and substance abuse disorder. Several modifiable and non-modifiable risk factors were identified for the cause of these major mental health issues. Interventions, programmes and policies need to be designed in order to curb mental health problems at all levels.

Keywords: mental health, Asia Pacific, depression, suicidal behaviour, Post-traumatic Stress disorder, community-based interventions

Mental health is an important and integral component of health and central to human development. Positive mental health are often related to better health status, higher educational achievement, enhanced productivity and earnings, improved interpersonal relationships, better parenting, closer social connections and improved quality of life (Chan, 2010) whereas poor mental health is often linked to negative health outcomes.

Mental and substance abuse disorders contributes to 183.9 million or 7.4% of all disability-adjusted life years (DALYs) worldwide, measured in 2010 (Whiteford et al., 2013). Mental, Neurological and Substance Use (MNS) disorders are interlinked with other health conditions and these disorders act as a risk factor to other diseases whereas depression and substance use disorders serves as a barrier in treatments seeking for other diseases (World Health Organization, 2008). The Global Burden of Disease reported that neuropsychiatric condition accord for up to a quarter of all DALYs and up to a third contributed to non-communicable diseases (Prince et al., 2007). The total DALY lost to neuropsychiatric conditions in the world, high-income, middle-income and low-income countries in 2005 (‘000) are 199 606, 32 717, 87 398 and 79 490 respectively and was projected to increase to 237 962, 34 798, 92 590 and 110 571 respectively for the year 2030 (‘000) (Prince et al., 2007).

Major increase in mental health problem will occur in the low-and-middle-income countries (LMICs) (Prince et al., 2007), due to the unavailability and inaccessibility of mental health treatment. Furthermore, lack of data available to aid in the evaluation of the quality or effectiveness of treatments among the minorities who received mental health care especially in low-and middle-income countries (LMICs). This is also accompanied by the shortage of

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mental healthcare professional, trainings, inaccurate empirical evaluation of innovative, scalable models of care delivery as well as the inadequate political will to substantiate research, policy, training and infrastructure development as a priority at national, regional and multinational level leads to the mental health problems (Becker & Kleinman, 2013). Less emphasis and priority is given on mental health care in LMICs, including Asia (Sharan et al., 2009; World Health Organization, 2007). A systematic-review on global epidemiology of mental disorders reported that there was a lack and scarcity of data reporting in the prevalence and incidence of mental disorders and the mortality rate in the LMICs, particularly in Central Asia and Oceania. This may be due lack of research support, funding and competition for resources (Baxter, Patton, Scott, Degenhardt, & Whiteford, 2013).

Mental Health and Millennium Development Goals (MDGs)

The Mental health issues hamper the achievement of Millennium Development Goals (MDGs). The three Millennium Development Goals which are related with Mental Health; MDG 1: Eradicate extreme poverty and hunger, MDG 4: Reduce child mortality and MDG 5: Improve maternal health (Miranda & Patel, 2005). The first MDG is to eradicate extreme poverty and hunger. Poor people undergo stressful life events such as poor physical health and exposure to violence, which serves as a risk factor for mental disorders. In a recent population-based study conducted in Indonesia, increase in poverty level was associated with poorer mental health (Tampubolon & Hanandita, 2014). Often mental disorders leads to poverty due to raised healthcare costs; as solutions are seek through private practitioners, and lost employment opportunity. Next reducing child mortality is a major concern related to mental health. Maternal depression was discovered to be an independent risk factor for infant diarrhoeal state, undernutrition, delayed initiation of breast-feeding, low birth-weight, impaired motor and cognitive development that contributes to infant mortality; and some South Asian countries. For example, in Bangladesh, low breastfeeding rate contributes to infant mortality in the country (Hanlon, 2013; Karmaker, Lahiry, Roy, & Singha, 2014). Improving maternal health is another concern in achieving MDG, and this includes mental health as well. In another study conducted in Sabah, East Malaysia, found that, 14.3% of mothers experienced postpartum depression (Yusuff, Tang, Binns, & Lee, 2014) and these were mothers who were depressed during antenatal period and also those who consistently worried about their newborn tends to develop depression. Mental health impacts other MDGs as well. In MDG 2, children are unable to complete their primary education successfully due to learning disability and mental disorder in MDG 6, people with HIV/AIDS tend to suffer from mental health issues such as stigmatisation and discrimination, and this affects their overall health outcome (Miranda & Patel, 2005).

The Top 5 Mental Health Problems in the Asia Pacific Region

The top five mental health problems in the Asia Pacific are depression, anxiety, Post-Traumatic Stress Disorder (PTSD), suicidal behaviour and substance abuse disorder (OECD/WHO, 2012; World Health Organization, 2015). Depression is the top mental health problem in the Asia Pacific region especially in the Western Pacific region, contributing to 15.2 million DALYs per year (Organisation for Economic Co-operation and Development/World Health Organization, 2012). In contrast, in the Southeast Asia region, depression is the fourth principal cause of disease, amounting to 21.1 DALYs per year (OECD/WHO, 2012). A cross-sectional study conducted in several regions across Asia Pacific for major depressive disorder (MDD) showed a prevalence of 16.5% for China,

Malaysia (17.5%), Korea (19.4%), Taiwan (19.9%) and Thailand amounting to 20.0% (Srisurapanont et al., 2015). There are many risk factors contributing to the progression of depression, such as material hardships, low socio-economic status, low education, serious problem at work and low self-esteem (Maideen, Sidik, Rampal, & Mukhtar, 2014). A study conducted by Leggett et al. (2012) among older people in Vietnam found that depression among the population were due to war, lack of social support, pain, number of diseases and less Activities of Daily Living (ADL) assistance due to less emotional support.

Similarly, anxiety is prevalent in the Asia Pacific region especially within the high income countries in the region like South Korea and Japan (Baxter et al., 2013; Schreier et al., 2010). It was estimated that 20% of adolescents in the Western Pacific region will experience anxiety problem in any given year in the future (World Health Organization, 2011). Elsewhere in Klang Valley, Malaysia, it was revealed that 34.0% had moderate anxiety whereas 29.0% had severe or extremely severe levels of anxiety (Shamsuddin et al., 2013). In Aceh and West Sumatra, Indonesia, the prevalence of anxiety disorder was 51.1% or 1 in every 2 person in the community (Musa et al., 2014). Further investigations revealed that this was due to negative psychological sequelae from natural disasters such as earthquakes and the individuals who are at high risk are the younger age group, females and jobless people (Musa et al., 2014).

In the past several years, the Asia Pacific region is not spared of natural disasters, among others, tsunami in Aceh (2007) and earthquakes in Japan (2011), Yunnan province, China (2011), Myanmar-China border (2011), Christchurch, New Zealand (2011) (Low & Binns, 2011). Besides that, the catastrophe which occurred in Fukushima Daiichi, Japan, the radiation and nuclear emission from the damaged nuclear power plants, brings detrimental effects to the health of the public (Low & Binns, 2011). Thus, post-traumatic stress disorder (PTSD) is a part of major occurring mental health issues in this region. The prevalence rate varies between 8.6% to 57.3% among Asians (Udomratn, 2008). It was estimated that 81% of investigations reported of this psychological problem in developing countries following natural disasters (Pyari, Kutty, & Sarma, 2012). For instance, 1.5 million people in Pakistan were affected by worst flood in its history and a study revealed that 59% of the participants suffered from PTSD (Mubeen, Nigah-e-Mumtaz, & Gul, 2013). Millions of Asians also suffered PTSD, following the 2004 Tsunami which hit the major countries in South Asia and South-East Asia (Wickrama & Wickrama, 2011). In a study conducted in Kanyakumari, India, one of the worst places hit by the catastrophe, several risk factors were found which have associated to PTSD, being female, injury which occurred to oneself and family members, age (40 years and above), death of close relations and residence in urban area (where area of major destruction occurred) (Pyari et al., 2012).

Another mental health issue that warrants attention is suicide. An estimated 1 million people commits suicide in a year in the South-East Asia region and 500 people per day in the Western Pacific Region (World Health Organization, 2014a, 2014c). The risk factors for suicidal behaviour were categorised into 3 groups, namely risk factors associated with the health systems and society, risks linked to the community and risk factors linked to the individual level (World Health Organization, 2014b). Risk factors associated with health systems and society are the adversity in accessing to the health care and the essential care needed, medias that reports and “sensationalise” certain suicide and this phenomenon increases the imitation of next suicide (World Health Organization, 2014b). Stigma against people who seek for mental health problem, particularly suicidal behaviour and

uncomplicated availability for means of suicide comes under this category too. Whereas the risk factors associated with community are stress of acculturation, war and disaster, violence, conflicts in relationships, discrimination, a sense of isolation and abuse (World Health Organization, 2014b). Risk factors linked to the individual level are harmful use of alcohol, mental disorders financial loss, family history of suicide and previous suicide attempt (World Health Organization, 2014b). Based on a cross-regional systematic review study, the prevalence of suicide completion rate among elderly people in China, Hong Kong and Taiwan are 68/100 000, 25-30/100 000, and 15.2-45.2/100 000 (Simon, Chang, Zeng, & Dong, 2013). Besides economic status that flourish rapidly in these three regions, political and social environments may play a pivotal role in difference in suicide trends (Simon et al., 2013). In contrast to this, high rates of suicides were reported among a small subgroup of indigenous people in Philippines, where suicides are considered rare due to its pre-industrialised area. In the study, a suicide rate of 134/100 000 were reported, which is ten times higher than the selected Western countries (Jollant, Malafosse, Docto, & Macdonald, 2014).

In the Asia Pacific region, substance abuse disorder affects more than 90 million people (World Health Organization, 2014a). Prevalence of several illicit drug abuse were reported in an overall Asian population by those aged 15-64 years old are as follows; cannabis (1.9%), amphetamine-type stimulants (ATS), excluding "ecstasy" (0.7%), ecstasy (0.4%), opiates (0.35%), and cocaine (0.05%) (United Nations Office on Drugs and Crime, 2014). A study conducted on Thai students revealed that 60% of them had a history of alcohol consumption in the last month while another 8% for marijuana (Wongtongkam, Ward, Day, & Winefield, 2014). Risk factors for substance abuse among youths are physical and sexual abuse, street victimisation, partner violence, smoking, alcohol consumption, lack of peer support and parental monitoring, decreased school commitment and having friends or peers with substance abuse behaviour (Tyler & Melander, 2013; Yusoff et al., 2014).

Intervention and Government Policy in Combating Mental Health Problem

Several interventions and programmes are designed to tackle the alarming rise in mental health problems and issues in the Asia Pacific region; however, more needs to be done. To add on, it has to be efficient, cost-effective and accessible to the public, from individual to community level. Investments at community level, especially those in the remote and rural areas, as well as Indigenous communities, where mental health services are at scarce. Besides, a mental health referral pathway need to be developed with the broader community sector, where it should promote an important access to primary mental health care and coordinating a patient-centred focus (Blashki et al., 2011).

School based interventions that were implemented across the low-and middle-income countries results in significant positive effects on students' behavioural and emotional status, which includes decrease in anxiety and depression and increased in coping skills (Barry, Clarke, Jenkins, & Patel, 2013). For example, teacher-led peer group support. In addition, a combination of life skill, physical health and fitness and sexual health education has positive effects on students' risk taking and pro-social behaviour (Barry et al., 2013). Besides that, a balanced approach in disseminating information on mental health problem, through biological and psychological description about the causes of mental illness, could ameliorate stigmatisation (Yamaguchi, Mino, & Uddin, 2011), which serves as a hindrance in help seeking behaviour in psychiatric illnesses. Teesson et al. (2012) in a systematic review reported that school based interventions which targeted alcohol, cannabis and tobacco were

implemented in several schools in Australia. Five out of seven intervention programs resulted in positive output, which were reductions in cannabis, tobacco and alcohol consumption by teenagers during follow-up. Some of the key methods implied in the interventions were social influence approach and cognitive behavioural therapy (CBT). Social influence approach is based on a belief that adolescence substance abuse is due to psychological pressure of family, media and peers. In addition, is believed that young people lack in knowledge and skills to avoid such influences. Therefore the objective of social influence is to educate young people on how to resist the external pressure and increase coping skill. On the other hand, cognitive behavioural therapy aids the respondents in analysing their negative pattern or irrational of behaviours, emotional reactions and thinking (Teesson, Newton, & Barrett, 2012).

Restriction towards the access and sale of lethal products and materials are crucial in order to stop suicide in the community level. Products such as gun, pesticide, drugs such as paracetamol and salicylates and sales of charcoal need to be controlled as it has proven to be an effective way to curb suicide (Chen, Wu, Yousuf, & Yip, 2011). In addition, premature detection of identified risk factors for suicide, for example substance abuse and sexual abuse, may aid in prevention for the problem (L. F. Chan et al., 2013). Cognitive-behavioural therapy (CBT) has proven to lower mental health illnesses. For example, in a 14-week individual CBT intervention in a clinical setting in Japan, targeted treatment outcomes for social anxiety disorder (SAD) in patients has been attained. The treatment also seems to be feasible in the clinical setting as well (Yoshinaga et al., 2013). Inter-sectorial collaboration, particularly between governmental and non-governmental organisations, proved to produce effective intervention. For example in Cambodia, the government forms partnership with United Nation, World Health Organization and local non-governmental organisations to provide treatment services for substance abuse and mental illnesses, from individual to community level. The program results in improved physical, mental and social condition to patients and their families (Ng, Fraser, Goding, Paroissien, & Ryan, 2012).

Governments' involvement in the Asia Pacific region appears to be bold and vital in safeguarding its citizen's mental health status. Many national policies have been enacted in order to boost the mental health status of the people. In India, National Crop Insurance scheme has been introduced between farmers and central and state government and the General Insurance Cooperation. This is to provide an insurance cover for farmers who underwent a severe loss from their crops as prevalence of farmers who commits suicide due to agricultural crisis in India is quite high (Das, 2011). In 2008, China has released The National Guideline on The Mental Health System Development 2008 to 2015. The guidelines contains several indicators which helps in the improvement of mental health among the citizen, such as piloting programmes to curb behavioural and psychological problems, piloting and community-based rehabilitation and treatment for patients with mental disorders and etc (Li, Sun, Zhang, Shi, & Kolstad, 2014). Whereas in Korea, the Minor Protection Law, Article 2, Clause 4, states that alcoholic beverages are one of the most harmful drugs for minors and forbids those who are under 19 years of age from purchasing or drinking alcohol (Chun, Welch, & Shin, 2011). In Malaysia, the sale of tobacco and its related products to minors of 18 and below is prohibited under the Control of Tobacco Related Products Regulation 2004, where the breach in control pertains to offence punishable by law (Lim et al., 2010). In contrast to all these, Thailand in 2002 enacted Act B.E. 2545, which reclassifies people who use drugs as "patients' instead of "criminals" but the criminal law governing drug abuse remains (Hayashi et al., 2013). These are some policies by few governments around Asia Pacific to safeguard the mental health issues of its citizens.

Conclusions

Mental health problems are on the rise in the Asia Pacific region and it is often been neglected or gone unnoticed. The prevalence and incidence of certain mental health disorders and illnesses are increasing, particularly in developing and developing countries such as Japan, Korea, Thailand, Malaysia, Singapore and etc. If this problem left aside from the main social healthcare system, it will definitely hamper the achievement the Millennium Development Goals (MDGs). In mitigating this issue, early detection seems crucial in attenuating the mental health problem. Whereas intervention and government policies enacted to combat seems effective. Population-wide intervention as well as cost-effective sustainable community-based interventions should be constructed, where it could be delivered at a maximum scalability and transferability to all people. Emphasis need to be given on mental health care in the rural areas, remote towns and Indigenous communities as paucity in mental health care among these communities often reported. Moreover, collaboration between governmental and non-governmental organisations needed to improve the healthcare system, increase community engagement in mental health matters and formulate policies and laws to contest mental health problem nationwide.

References

Barry, M. M., Clarke, A. M., Jenkins, R., & Patel, V. (2013). A systematic review of the effectiveness of mental health promotion interventions for young people in low and middle income countries. *BioMed Central Public Health, 13*(1), 835-854.

Baxter, A. J., Patton, G., Scott, K. M., Degenhardt, L., & Whiteford, H. A. (2013). Global epidemiology of mental disorders: What are we missing? *The Public Library of Science ONE, 8*(6), e65514, doi: 10.1371/journal.pone.0065514

Becker, A. E., & Kleinman, A. (2013). Mental health and the global agenda. *New England Journal of Medicine, 369*(1), 66-73.

Blashki, G., Armstrong, G., Berry, H. L., Weaver, H. J., Hanna, E. G., Bi, P., Spickett, J. T., et al. (2011). Preparing health services for climate change in Australia. *Asia-Pacific Journal of Public Health, 23*(2), 133-143. doi: 10.1177/1010539510395121

Chan, L. F., Maniam, T., Saini, S. M., Shah, S. A., Loh, S. F., Sinniah, A., Tan, S. M. K., et al. (2013). Sexual abuse and substance abuse increase risk of suicidal behavior in Malaysian youth. *Asia-Pacific Psychiatry, 5*(1), 123-126. doi: 10.1111/appy.12057

Chan, M. (2010). *Mental health and development: Targeting people with mental health conditions as a vulnerable group*. Retrieved January 13, 2015 from http://www.who.int/mentalhealth/policy/mhtargeting/developmenttargetingmhsummary.pdf

Chen, Y. Y., Wu, K. C. C., Yousuf, S., & Yip, P. S. (2012). Suicide in Asia: Opportunities and challenges. *Epidemiologic reviews, 34*(1), 129-144. doi: 10.1093/epirev/mxr025

Chun, S., Welch, M. E., & Shin, M. (2011). *Issues of Korean alcohol policy perspectives*. In Asian Perspectives and Evidence on Health Promotion and Education. Japan: Springer.

Das, A. (2011). Farmers' suicide in India: Implications for public mental health. *International journal of social psychiatry, 57*(1), 21-29. doi: 10.1177/0020764009103645

Hanlon, C. (2013). Maternal depression in low-and middle-income countries. *International health, 5*(1), 4-5.

Hayashi, K., Ti, L., Fairbairn, N., Kaplan, K., Suwannawong, P., Wood, E., & Kerr, T. (2013). Drug-related harm among people who inject drugs in Thailand: Summary findings from the Mitsampan Community Research Project. *Harm reduction journal, 10*(1), 1-9.

Ito, H., Setoya, Y., & Suzuki, Y. (2012). Lessons learned in developing community mental health care in East and South East Asia. *World Psychiatry, 11*(3), 186-190.

Jollant, F., Malafosse, A., Docto, R., & Macdonald, C. (2014). A pocket of very high suicide rates in a non-violent, egalitarian and cooperative population of South-East Asia. *Psychological medicine, 44*(11), 1-7. doi: 10.1017/S0033291713003176

Julian, E., McCay, L., Semrau, M., Chatterjee, S., Baingana, F., Araya, R., Saxena, S., et al. (2011). Scale up of services for mental health in low-income and middle-income countries. *The Lancet, 378*(9802), 1592-1603.

Karmaker, S. C., Lahiry, S., Roy, D. C., & Singha, B. (2014). Determinants of Infant and Child Mortality in Bangladesh: Time Trends and Comparisons across South Asia. *Bangladesh Journal of Medical Science, 13*(4), 431-437.

Leggett, A., Zarit, S. H., Nguyen, N. H., Hoang, C. N., & Nguyen, H. T. (2012). The influence of social factors and health on depressive symptoms and worry: A study of older Vietnamese adults. *Aging & Mental Health, 16*(6), 780-786. doi: 10.1080/13607863.2012.667780

Li, K., Sun, X., Zhang, Y., Shi, G., & Kolstad, A. (2014). Mental health care in China: Review on the delivery and policy issues in 1949–2009 and the outlook for the next decade. *An International Journal of Translational Neuropsychiatry, 26*(3), 134-145.

Lim, K. H., Sumarni, M. G., Kee, C. C., Christopher, V. M., Noruiza Hana, M., Lim, K. K., & Amal, N. M. (2010). Prevalence and factors associated with smoking among form four students in Petaling District, Selangor, Malaysia. *Tropical Biomedicine, 27*(3), 394-403.

Low, W. Y., & Binns, C. (2011). Disasters and public health concerns. *Asia-Pacific Journal of Public Health, 23*(3), 277-279.

Maideen, S. F. K., Sidik, S. M., Rampal, L., & Mukhtar, F. (2014). Prevalence, associated factors and predictors of depression among adults in the community of Selangor, Malaysia. *Public Library of Science One*, *9*(4), 1-14.

Miranda, J. J., & Patel, V. (2005). Achieving the millennium development goals: Does mental health play a role? *Public Library of Science Medicine, 2*(10), e291, doi: 10.1371/journal.pmed.0020291

Mubeen, S. M., Nigah-e-Mumtaz, S., & Gul, S. (2013). Prevalence of post-traumatic stress disorder and depression among flood affected individuals of Sindh, Pakistan: A cross-sectional survey in camps five months after the flood. *Pakistan Journal of Medical Research, 52*(4), 111-115.

Musa, R., Draman, S., Jeffrey, S., Jeffrey, I., Abdullah, N., Halim, N. A. M., Sidi, H., et al. (2014). Post tsunami psychological impact among survivors in Aceh and West Sumatra, Indonesia. *Comprehensive Psychiatry, 55*(5), S13-S16. doi: 10.1016/j.comppsych.2012.12.002

Ng, C., Fraser, J., Goding, M., Paroissien, D., & Ryan, B. (2012). Partnerships for community mental health in the Asia-Pacific: Principles and best-practice models across different sectors. *Australasian Psychiatry, 21*(1), 38-45. doi: 10.1177/1039856212465348

Organisation for Economic Co-operation and Development/World Health Organization. (2012). *Measuring mental health care quality Health at a Glance: Asia/Pacific 2012*. Retrieved January 13, 2015 from http://www.oecd-ilibrary.org/docserver/download/8112131ec037.pdf?expires=1437801716&id=id&accname=guest&checksum=2E7343C638CFF7DCD1DD74AD1E2E2F6A

Prince, M., Patel, V., Saxena, S., Maj, M., Maselko, J., Phillips, M. R., & Rahman, A. (2007). No health without mental health. *The Lancet, 370*(9590), 859-877.

Pyari, T. T., Kutty, R. V., & Sarma, P. S. (2012). Risk factors of post-traumatic stress disorder in tsunami survivors of Kanyakumari District, Tamil Nadu, India. *Indian Journal of Psychiatry, 54*(1), 48-53.

Schreier, S. S., Heinrichs, N., Alden, L., Rapee, R. M., Hofmann, S. G., Chen, J., Bögels, S., et al. (2010). Social anxiety and social norms in individualistic and collectivistic countries. *Depression and Anxiety, 27*(12), 1128-1134.

Shamsuddin, K., Fadzil, F., Ismail, W. S. W., Shah, S. A., Omar, K., Muhammad, N. A., Mahadevan, R., et al. (2013). Correlates of depression, anxiety and stress among Malaysian university students. *Asian Journal of Psychiatry, 6*(4), 318-323.

Sharan, P., Gallo, C., Gureje, O., Lamberte, E., Mari, J. J., Mazzotti, G., Saxena, S., et al. (2009). Mental health research priorities in low-and middle-income countries of Africa, Asia, Latin America and the Caribbean. *The British Journal of Psychiatry, 195*(4), 354-363.

Simon, M., Chang, E., Zeng, P., & Dong, X. (2013). Prevalence of suicidal ideation, attempts, and completed suicide rate in Chinese aging populations: A systematic review. *Archives of Gerontology and Geriatrics, 57*(3), 250-256. doi: http://dx.doi.org/10.1016/j.archger.2013.05.006

Srisurapanont, M., Bautista, D., Chen, C. -H., Wang, G., Udomratn, P., & Eurviriyanukul, K. (2015). Country variations in depressive symptoms profile in Asian countries: Findings of the Research on Asia Psychotropic Prescription (REAP) studies. *Asia-Pacific Psychiatry, 7*(3), 105-110.

Tampubolon, G., & Hanandita, W. (2014). Poverty and mental health in Indonesia. *Social Science & Medicine, 111,* 20-27.

Teesson, M., Newton, N. C., & Barrett, E. L. (2012). Australian school-based prevention programs for alcohol and other drugs: A systematic review. *Drug and Alcohol Review, 31*(6), 731-736.

Tyler, K. A., & Melander, L. A. (2013). Child abuse, street victimization, and substance use among homeless young adults. *Youth & Society,*1-18.

Udomratn, P. (2008). Mental health and the psychosocial consequences of natural disasters in Asia. *International Review of Psychiatry, 20*(5), 441-444.

United Nations Office on Drugs and Crime. (2014). *World Drug Report 2014.* Retrieved January 13, 2015 from https://www.unodc.org/documents/wdr2014/World_Drug_Report_2014_web.pdf

Whiteford, H. A., Degenhardt, L., Rehm, J., Baxter, A. J., Ferrari, A. J., Erskine, H. E., Vos, T., et al. (2013). Global burden of disease attributable to mental and substance use disorders: Findings from the global burden of disease study 2010. *The Lancet, 382*(9904), 1575-1586.

Wickrama, K. A. S., & Wickrama, T. (2011). Perceived community participation in tsunami recovery efforts and the mental health of tsunami-affected mothers: Findings from a study in rural Sri Lanka. *International Journal of Social Psychiatry, 57*(5), 518-527.

Wongtongkam, N., Ward, P. R., Day, A., & Winefield, A. H. (2014). The influence of protective and risk factors in individual, peer and school domains on Thai adolescents' alcohol and illicit drug use: A survey. *Addictive Behaviors, 39*(10), 1447-1451. doi: 10.1016/j.addbeh.2014.05.026

World Health Organization. (2007). *Research capacity for mental health in low- and middle-income countries: Results of a mapping project*. Retrieved October 2, 2014 from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2649557/pdf/08-053249.pdf

World Health Organization. (2008). *Scaling up care for mental, neurological, and substance use disorders*. Retrieved October 2, 2014 from http://www.who.int/mental_health/mhgap_final_english.pdf

World Health Organization. (2011). *Fact sheet on adolescent health.* Retrieved October 2, 2014 from http://www.wpro.who.int/mediacentre/factsheets/docs/fs_201202_adolescent_health/en/

World Health Organization. (2014a). *Mental health and substance abuse: Facts and figures*. Retrieved October 15, 2014 from http://searo.who.int/entity/mental_health/data/en/

World Health Organization. (2014b). *Preventing suicide: A global imperative*. Retrieved October 17, 2014 from http://www.who.int/mental_health/suicide-prevention/exe_summary_english.pdf?ua=1

World Health Organization. (2014c). *WHO endorses action plans for tobacco control, mental health and antimicrobial resistance.* Retrieved October 16, 2014 from http://www.wpro.who.int/mediacentre/releases/2014/20141014/en/

World Health Organization. (2015). *Mental health and substance abuse.* Retrieved February 26, 2015 from http://searo.who.int/entity/mental_health/en/

Yamaguchi, S., Mino, Y., & Uddin, S. (2011). Strategies and future attempts to reduce stigmatization and increase awareness of mental health problems among young people: A narrative review of educational interventions. *Psychiatry and Clinical Neurosciences, 65*(5), 405-415.

Yoshinaga, N., Ohshima, F., Matsuki, S., Tanaka, M., Kobayashi, T., Ibuki, H., Shimizu, E., et al. (2013). A preliminary study of individual cognitive behavior therapy for social anxiety disorder in Japanese clinical settings: A single-arm, uncontrolled trial. *BioMed Central, Research Notes, 6*(1), 1-8.

Yusoff, F., Sahril, N., Rasidi, N. M., Zaki, N. A. M., Muhamad, N., & Ahmad, N. (2014). Illicit drug use among school-going adolescents in Malaysia. *Asia-Pacific Journal of Public Health, 26*(5), 100-107.

Yusuff, A. S. M., Tang, L., Binns, C. W., & Lee, A. H. (2014). Prevalence and risk factors for postnatal depression in Sabah, Malaysia: A cohort study. *Women and Birth, 28*(1), 25-29.