Effectiveness of Psychoeducation in Decreasing Depression As Co-Morbidity: A Meta-Analysis

Rainier C. Moreno-Lacalle

Faculty, Saint Louis University-School of Nursing, Baguio City Philippines, 2600
Corresponding author. E-mail address: rcmoreno-lacalle@slu.edu.ph
Received: 29 February 2016; Accepted: 27 June 2016

Abstract

Psychoeducation is a low-cost, structured, integrative, collaborative, psychotherapeutic, and support-based educational modality delivered by a mental health professional. This intervention is used to counteract the exponential growth of mental illness. The objective of this paper is to establish the effectiveness of psychoeducation in decreasing depression as a co-morbid mental illness through meta-analysis. Aided by CMA (v. 3 *trial version*) software, heterogeneity and effect size were computed. Seven (n=7) trials met the inclusion criteria lifted from Academic search complete, MEDLINE, Biomedical reference collection, Health source nursing/ Academic edition, and CINAHL databases.

The total number of subjects are four hundred sixty-two (n=462) divided between the intervention group (n=230) and control group (n=232). Using random effects model, heterogeinity shows (i^2= 81.69) high, substantial, and partly spurious result. Small effect size estimated as -0.240 and the odds of psychoeducation decreasing depression is 0.647 (95% CI -6.86 to 0.206, p=0.292). This meta-analysis shows that there are no adequate data to prove the effectiveness of psychoeducation in decreasing depression as co-morbidity of mental illness. In the future, research may develop disease-focused psychoeducation in order to maximize its effectiveness. Meta-analysis may be done on the effectiveness of psychoeducation across different co-morbid mental illness such as anxiety or stress-related disorders to support the attribution of specificity and incompatibility.

Keywords: psychoeducation, depression, meta-analysis, co-morbidity

Introduction

Mental illness is an intractable pandemic. Despite the impressive pharmacological and technological progress on the treatment of mental illness, the impact has proved to be inadequate. The number of people affected of mental illness is growing exponentially both in developed and developing countries. In the USA alone, 1 in every four adults will develop mental illness in a given year (National Alliance in Mental Illness, 2013) higher than the Philippines where there is an estimated occurrence of one in every five adults (Department of Health, 2008). One probable reason why mental illness is difficult to treat (e.g. schizophrenia, bipolar disorders, posttraumatic disorders) could be, the presence of an evasive, underlying (often undetected) co-morbidity like depression.

The impact of depression is extensive and deep (Chong, Aslani, & Chen, 2013). The World Health Organization (2015) declared that 350 million people worldwide are suffering from depression. Depression is projected to be the second major public health concern in most countries by the year 2020 (Center for Disease Control, 2011). Among ASEAN countries, Philippines has a pervasive problem on depression (Department of Health, 2011), constituting to 4.5 depressed Filipinos- the highest in Southeast Asia (Lapeña, 2015). Due to difficulty diagnosing and identifying masked co-morbidities, no data set can be culled regarding the number of people with depression as co-morbidity with another mental illness.

The present situation creates unbearable burdens in terms of diminished quality of life, loss of productivity, and increased economic consumption

(Chong, Aslani, & Chen, 2013). Depression can be associated with mental agony, risk of suicide, and poor physical, cognitive, and poor social functioning (Julien, Gauvin, Richard, Kestens, & Payette, 2013). The Australian Psychological Society (2012) revealed that the economic impact of depression is "staggering." Due to the significant loss of productivity and quality of life, Australia spends $12.6 billion annually for medical management. This information highlights the impact of depression on the quality of life.

This had ignited interest in counteracting depression that cuts across as both primary and secondary disease. The efficacy of psychoeducation for primary mental illness, both to the individual or group clientele has proven to be indispensable (Rabovsky, Trombini, Alemann, & Stoppe, 2012; Bhattacharjee, Rai, Singh, Kumar, Munda, & Das, 2011; Lukens & McFarlane, 2004). For instance, Ram, Narayanasamy, and Barua (2013) in Malaysia found out that 97% reported improved well-being because of psychoeducation thereby decreasing depression. Probably this is due to psychoeducation properties of correcting cognitive distortions, offering of alternatives, enhancing coping strategies, and promotion mental health in general. Despite studies proving the psychoeducation effectiveness, to the author knowledge the efficacy on co-morbidities of mental illness is almost never studied. The paper could serve as a jumpstart in creating effective and efficient psychoeducational interventions to curb out the depressions' increasing prevalence and impact. With meta-analysis as the highest level of evidence and statistical power, the study could provide basis of interventions that are necessary to be incorporated in practice and those that may need to be weeded out.

Psychoeducation is a low-cost, structured, integrative, collaborative, psychotherapeutic, and support-based educational modality delivered by a mental health professional for people with mental illness. Bhattargee et al. (2011) enumerated the basic objectives of psychoeducation namely: enhancing knowledge on the psychodynamics, psychopathology, psychotherapeutics, and psycho-prognosis, correction of myths, caring process, coping strategies, relapses, and community integration of people with psychiatric disorders. The objective of this paper is to establish the effectiveness of psychoeducation on depression as a co-morbidity of mental illness.

Methods and Materials

Studies were identified by advanced search on electronic databases: Academic search complete, MEDLINE, Biomedical reference collection, Health source nursing/Academic edition, and CINAHL using the terms 'psychoeducation', 'group psychoeducation', and 'mental illness' from 2005-2015. Table 1 shows the inclusion/exclusion criteria for selected trials. The current study included papers written in English.

The search initially yielded 138 studies. Titles were reviewed if they utilized randomized controlled trials (RCT). Each title was reviewed if they meet the inclusion criteria by using color coding: green as relevant, blue as somehow relevant, and red as not relevant even without full-text. Only studies with somewhat relevant and relevant are included to move to the next phase. This process downsized to 38 studies. From this point, abstracts were read whereas duplications (n=16) were removed. Shall the full-text not available, the university librarian assistance was sought. Fifteen studies were read and eight studies did not meet the inclusion criteria for the following reasons: subjects are suffering from medical illness including cancer, traumatic brain

Table 1 Inclusion and Exclusion criteria for selected trials

Inclusion Criteria	Exclusion Criteria
Examine the effectiveness of psychoeducation on mental illness or to family caregivers of those with mental illness.	Study subjects not listed on Diagnostic and Statistical Manual of Mental Disorders IV-TR/V
Randomized controlled trials	Not an intervention study nor a pre-post experimental study.
Provides sufficient information for the effect sizes	Studies without full text.
Studies comparing an experimental receiving usual psychoeducation with a control group diagnosed with mental illness. The control group might include comparison with telehealth education practices.	Articles whose outcome measurement does not include measuring depression.

Injuries, asthma, diabetes mellitus not mental illness (n=4), respondents are without mental illness (n=1), comparison is cognitive-behavioral therapy (n=2), and review of literatures (n=1). After reading the studies in its entirety, seven studies (n=7) are included in this meta-analysis.

Quality Assessment

Code sheets were used in sifting the information of the 7 articles patterned after Zou, Li, Nolan, Arthur, Wang, and Hu (2013) as shown in Table 2. There are seven columns on the code sheets: author (including year and country), methods, intervention, participant characteristics, outcomes and measurements, findings, and the Jadad score. These were included to ensure the rigor of the study.

To assess the randomized controlled trials quality, Jadad scale was used as suggested by Halpern and Douglas (2005). The main advantage of using this scale is the following: brevity, consciousness, acceptability, and correlation with bias. The highest score will be 5 (meaning the study is reliable and has external validity) to zero (the study is poor and cannot be part of the meta-analysis). Three items were considered: randomization (explicitness), blinding (if it was mentioned), and account of all patient (fate is known). As to the randomization, 2 is the score if randomization is mentioned, plus 1 if the sampling is appropriate, and deduct 1 if inappropriate to which 0 is the lowest. The aspect of blinding is graded 2 if the process is mentioned, additional 1 point if the blinding is appropriate, and deducts one point if otherwise. The fate is graded 1 if the process is explained by the researcher to the patient and zero if not.

Statistical analysis

The Comprehensive Meta-Analysis (CMA) Software (v. 3 *trial version*) was used to conduct the meta-analysis. Two statistical analyses were performed: heterogeneity test and the effect size analysis. Under this meta-analysis, the random effects models are used. Heterogeneity test is the test of variability (Cochrane, 2002). This meta-analysis recognized that studies are functionally equivalent. To test the heterogeneity, i^2 is used to total the observed variation (Borenstein, Hedges, Higgins, & Rothstein, 2011). In interpreting the heterogeinity, 25% regarded as low, 50% as moderate, and 75% as high (Higgins, Thompson, & Deeks, 2003). The effects size as the unit currency of meta-analysis, "reflects the magnitude of the treatment effect or the strength of a relationship between variables" (Borenstein, Hedges, Higgins, & Rothstein, 2011) was also computed.

Using Cohens standard (Becker, n.d.) interpretation of effect size subscales as follows: 0.20 (interpreted as small effect size), 0.50 (interpreted as medium effect size), and 0.80 (interpreted as large effect size).

Results

The total number of subjects involved in the meta-analysis is four hundred sixty-two (n=462), divided between the intervention group (n=230) and control group (n=232) including patients with mental illness or their family relatives. The maturity of the interventions were measured post intervention from the least 5 months (Mason, Haggerty, Fleming, & Goldstein, 2012) to the longest 12 months (Rabovsky, Trombini, Alemann, & Stoppe, 2012; Reinares et al., 2008) as shown on Table 2. The outcomes were measured using Hamilton Depression Scale (n=2), affective responses/ depression scores (n=2), BDI-SF (n=1), CES-D, (n=1) and WHO QoL BREF (n=1). The Jadad score ranges from 2-4. The countries emanated from USA (n=2), Australia (n=1), China (n=1), New Zealand (n=1), Spain (n=1), and Switzerland (n=1).

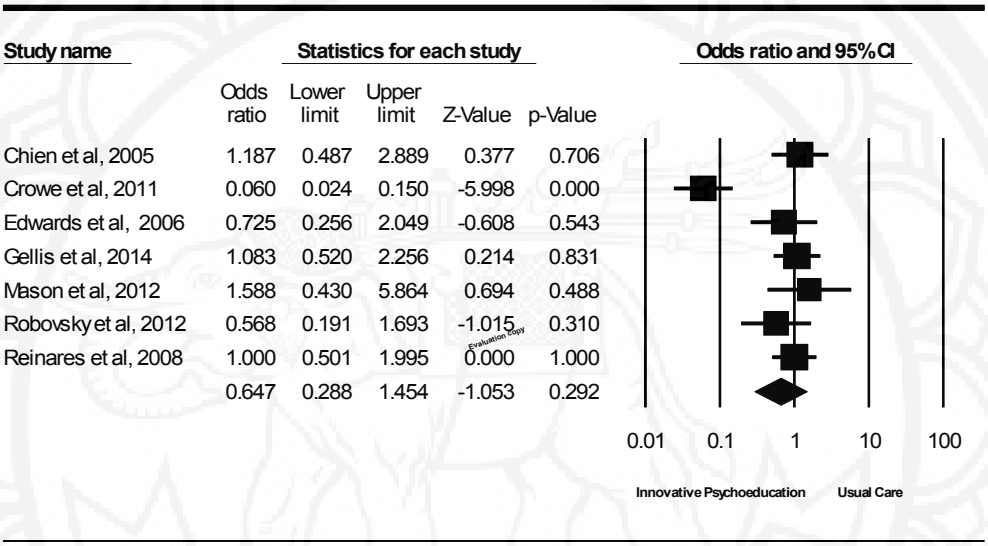

Figure 1 Effectiveness of psychoeducation in decreasing depression as comorbidity

In all trials result shows considerable evidence of heterogeneity among studies. (i^2= 81.69). The heterogeneity is high, substantial, and partly spurious. The meta-analysis utilized random effects model. Borenstein, Hedges, Higgins, & Rothstein (2011) justified the use of this especially if the intervention given varies. In random effects model (instead of fixed effect model) Borenstein, Hedges, Higgins, & Rothstein (2011) defined that "the true effect sizes...would be distribute about some mean." Gleaning from Figure 1, of the seven studies, Crowe et al. (2012) showed significant decrease on depression using innovative psychoeducation (p=.000) while five studies (n=5) identified mere decrease in depression. Although the effect of psychoeducation is wide ranging (Lukens & McFralane, 2004); Crowe et al. (2012) emphasized that it is deemed inappropriate during the psychotic episode of a person because of the looseness in reality among subjects making psychoeducation irrelevant and impossible to implement. Several studies (n=5) including Chien, Chan, Morrisey, & Thompson (2005); Crowe et al. (2011); Edwards et al. (2006); Rabovsky, Trombini, Alemann, & Stoppe (2012); Reinares et al. (2008) instituted longer post intervention leading to greater maturity period proving that more time given to implement psychoeducation, the chances of effectiveness is more likely (except during the psychotic state).

As to the effect size, the standard difference in means was estimated as -0.240 (95% CI- -0.686 to 0.206, p=0.292) by the random effects model and decreases depression between the treatment group and control group. The odds of psychoeducation decreasing depression as a co-morbidity of mental illness is at 0.647 (95% CI- -0.686 to 0.206, p=0.292). The effect size of this meta-analysis is small effect size (95% CI z=-1.053, p=0.292). As can be seen on Figure 1, psychoeducation is not significantly effective in decreasing depression since it does not cross the 'line of no effect'. This meta-analysis refutes the effectiveness of psychoeducation in decreasing depression as a co-morbid mental illness.

Table 2 Summary Table of the included studies

AUTHOR, YEAR, (Country)	METHODS	INTERVENTION	PARTICIPANTS' CHARACTERISTICS	OUTCOME AND MEASUREMENT	FINDINGS	JADAD SCORE
Chien et al., 2005 (Hongkong, China)	RCT Mutual support: 32 I: 33 C- 31 FU: 6 months post intervention	Mode: Psychoeducation Content: Received a multiple-family psychological support and educational programme. The topics included: Chinese family-oriented culture, schizophrenia management and caring process (communication, problem solving, compliance, crisis intervention, and social networks). Duration: 12 session (2 hours/ session) for 24 weeks	Diagnosis: Chinese families caring for a relative with schizophrenia. Recruitment: outpatient	Clients were measured using affective responses.	Deterioration in control group were noted. Mutual support groups improves family and patient level of functioning	4
Crowe et al., 2012 (New Zealand)	RCT I: n=36 C: n=42	Mode: Nurse-led psychoeducation for self-management	Diagnosis: Patient diagnosed with bipolar I or bipolar II by a psychiatrist.	Outcome/ Measurement: symptom check list, depression scores, and	Psychoeducation would be difficult to apply in patients on mood episode.	3

Table 2 (Cont.)

AUTHOR, YEAR, (Country)	METHODS	INTERVENTION	PARTICIPANTS' CHARACTERISTICS	OUTCOME AND MEASUREMENT	FINDINGS	JADAD SCORE
	FU: 9 months post-intervention	Content: The activities set are geared towards adherence to treatment, enhancement of problem solving, and managing the impact of bipolar. Duration: 50 minutes sessions on a weekly basis for the initial 2 months.	Recruitment: outpatient (community mental health service)	12-ietm short form health survey.	No significant differences in depression or self-efficacy between the intervention and control group.	
Edwards et al., 2006** (Australia)	RCT I: n=23 C n=24 FU: 6 months post intervention	Mode: Focused intervention Content: The intervention consisted of cognitive-behavioral-oriented program, the control is psychoeducation. Duration: 10 weekly sessions (20-60 minutes in duration) for 3 months	Diagnosis: Cannabis-using patients: Recruitment: outpatient (though mental health service)	Outcome/ Measurement: The outcome was measured using Beck-Depression Inventory-short form (BDI-SF).	No significant difference on the intervention and psychoeducation both in psychopathology and functional ratings.	3
Gellis et al., 2014 **(USA)	RCT I: n=46 C: n=48 FU: 3 months	Mode: Tele-psychoeducation Content: Integrated Telehealth Education Intervention (I-TEAM) intervention included telemonitoring, chronic and depression care management, and problem solving treatment (PST). Duration: 8 weeks for PST and 35 minutes telehealth sessions.	Diagnosis: Older person (65 y/o and above) with chronic disease and depression as comorbidity. Recruitment: Home care agency	Outcome/ Measurement: To measure depression the study utilized using Hamilton Depression Rating Scale.	Decrease of 50% lower in I-TEAM than in psychoeducation groups. Improvement of problem-solving and efficacy in managing their medical condition. Significantly lowered days of hospitalization for the I-TEAM)	3

Table 2 (Cont.)

AUTHOR, YEAR, (Country)	METHODS	INTERVENTION	PARTICIPANTS' CHARACTERISTICS
Mason, Haggerty, Fleming, & Goldstein, 2012 (USA)	RCT I: 16 C: 14 FU: 5 months post intervention	Mode: family psychoeducation Content: The psychoeducation is grounded on ecological systems theory. They call the intervention PROJECT HOPE. This project includes information and coping on depression, parenting, family bonding, relationship quality, and information about substance abuse. Duration: Implemented over 10 sessions.	Diagnosis: Main characteristics is that a family has a depressed parent. Recruitment: outpatient(health care clinics and therapeutic centers)
Rabovsky, Trombini, Alemann, & Stoppe, 2012 (Switzerland)	RCT I: 22 C: 21 FU 12 months post intervention	Mode: Group Psychoeducation Content: The subjects initially entered the social-activity group. Educative practices on communication skills and physical activities. Duration: 90-120 minutes weekly	Diagnosis: Patients with diagnosis of schizophrenia, affective, anxiety and personality disorders. Recruitment: In patient (but was instituted outpatient)
Reinares et al., 2008 (Spain)	RCT I: 54 C: 52 FU: 12 months post intervention	Mode: Group psychoeducation Content: Structured information about the nature of bipolar illness and skills for its management. Duration: 12 weekly 90 minutes sessions.	Diagnosis: The caregivers of patients suffering from bipolar disorder in remission. Recruitment: In patient (Hospital Clinic at the University of Barcelona)

Legend: **study mentioned that psychoeducation is the comparison group.
I: intervention; C: Control; FU: Follow-up

Discussion

This meta-analysis ascertains that there are no adequate studies supporting the effectiveness of psychoeducation in decreasing depression as co-morbidity mental illness. Perhaps this is influenced by the non-specificity, non-urgency, and incompatibility of psychoeducation realm in depression as co-morbidity whose focus is on the primary disease. Most psychoeducation seem constricted on the primary disease, typically putting aside the impact on the secondary disease that may ramify.

A meta-analysis by Donker, Griffiths, Cuijpers, & Christensen (2009) shows different results in this study, favouring brief passive psychoeducation. Small effect size, sustainability, delivery mode, and content of intervention might play a huge role in the outcome of their study vis-a-vis this meta-analysis claiming otherwise. Despite the observed similarities such as small effect size, variety of intervention, and delivery

mode, still the psychoeducation on Donker, Griffiths, Cuijpers, and Christensen (2009) targets primary disease not co-morbidity. That is to underscore the importance of a direct, logical, and relevant psychoeducation to patients.

In regulating behavior the focus is on the primary mental illness, not on the prevention of co-morbidities which is depression. Regulatory focus theory states that in order to allude a person to acquire healthy habits specific and focused-goal is necessary (Krishen, 2015). The reason why psychoeducation on depression has an inconclusive effect was that it was not the primary reason or complaint during their admission. Therefore the personal motivation in particular pursuit of mental health behaviors may not coincide to what is deemed to be priority of the individual. The urgency, distress, and dysfunction caused by the disease may not be explicit in causing health seeking behaviors. That is to say that flooding goals to clients may not be effective since it may cause 'paralysis-like' state to which instead of adopting healthy behaviour, patients may opt otherwise.

The result might also be attributed to the incompatibility of the intervention. Psychoeducation in order to be effective has to be focused and disease-specific. Noticeably, most of the interventions in this study target bipolar disorders, schizophrenia, and other primary mental illness and not the co-morbidities like depression. They mention depression only as secondary outcome. The communication loop starts with the mental health professional (as a therapist) to the patient. The receiver which is the patient receives the message. If the message given by the therapist is unclear and do not corresponds to the person's need, then the interpretation of the message would reverberates vagueness, meaningless, and transience. Therefore, the relevance, congruence, and incompatibility may be considered during psychoeducation.

In summary, the health belief model as explained by Berman, Snyder, Kozier, and Erb (2008) encapsulates the selected path analysis. That is the importance of increasing perceived seriousness and magnifying perceived susceptibility to personalize perceived threat which augments the likelihood of taking health action. Therefore, if incompatibility and non-persuasion exists as the nurse implements psychoeducation the likelihood on the personal and contextual change is unlikely.

Strengths and Limitations

To my knowledge this is the first study that examines the effects of psychoeducation among RCT studies in decreasing co-morbid depression. All studies included are randomized controlled trials belonging to the highest level of evidence. The Jadad scales of the RCTs range from 2-4 which means studies included shows rigor.

Certain limitations were also identified. The first is publication bias. Trials included are lifted from five electronic databases only. Unpublished works are not included on the study because of the dearth of research conducted on this topic. Second is the variability bias. The style, duration, approach, and techniques of the interventions given may not be uniform among the seven trials. In an attempt to decrease variability bias, random effects model were used. Third is the selection bias. Not all aspects of the study were included in the meta-analysis. Only the aspects of intervention and depression since the thesis are on these two concepts. Yet the whole aspects of the trials might pose different picture of the RCT.

Conclusion and Suggestion

This meta-analysis shows that there are no adequate studies to prove the effectiveness of psychoeducation in decreasing depression as co-morbidity of mental illness. Arguably, the effect of

psychoeducation is retooled on the primary disease not on the secondary disease. The effectiveness on the confidence intervals is conspicuously notable to those trials applying longer duration rather than short term psychoeducation. Considering that the genesis of psychoeducation is from or is the cause of mental illness, the finding shows that if a mental illness ramifies to another mental illness, psychoeducation might be auxiliary. Another poignant finding is the inapplicability during the acute state, psychoeducation might not be applicable and effective during the psychotic state of the patient.

In the future, research may develop disease-focused psychoeducation in order to maximize its effectiveness. Research may also be done on the effectiveness of psychoeducation across different co-morbid mental illness such as anxiety or stress-related disorders. There is a need to include unpublished trials to ensure homogeneity of the intervention and look into the aspects of psychosocial outcomes to minimize publication, variability, and selection biases.

Acknowledgement

I would like to acknowledge the help of Dr. Mary Grace Lacanaria and Dr. Anabelle Borromeo in refining the paper.

References

Australian Psychological Society. (2012). *A review of depression diagnosis and management*. Retrieved from https://www.psychology.org.au/publications/inpsych/2012 february/manicavasagar/

Becker, L. (n.d.). *Effect sizes*. Retrieved from http://www.uccs.edu/lbecker/effect-size.html

Berman, A., Snyder, S. Kozier, B., & Erb, G. (2008). *Kozier & Erbs Fundamentals of Nursing concepts, process, and practice.* Jurong, Singapore: Pearson South Asia Pte.

Bhattacharjee, D., Rai, A., Singh, N., Kumar, P., Munda, S., & Das, B. (2011). Psychoeducation: A measure to strengthen psychiatric treatment. *Delphi Psychiatry Journal*, *14*(1), 33-39.

Borenstein, M., Hedges, L., Higgins, L., & Rothstein, H. (2011). *Introduction to Meta-Analysis*. Chichester, West Sussex: John Wiley & Sons.

Center for Disease Control. (2011). *Mental Health Basics*. Retrieved from http://www.cdc.gov/mentalhealth/basics.html

Chien, W., Chan, S., Morrissey, J., & Thompson, D. (2005). Effectiveness of mutual support group for families of patients with schizophrenia. *Journal of Advanced Nursing*, *51*(6), 595-608.

Chong W., Aslani, P., & Chen, T. (2013). Health care provider's perspectives of medication adherence in the treatment of depression: A qualitative study. *Psychiatry Epidemiology*, *48*(10), 1657-1666.

Cochrane Collaboartion. (2002). *Handbook*. Retrieved from http://handbook.cochrane.org/chapter_9/9_5_1_what_is_heterogeneity.htm

Crowe, M., Inder, M., Caryle, D., Wilson, L., Whitehead, L., Panckhurst, A., ... Joyce, P. (2012). Nurse-led delivery of specialist supportive care for bipolar disorder: a randomized controlled trial. *Journal of Psychiatric and Mental Health Nursing*, *19*, 446-454.

Department of Health. (2008). *Health Policy Notes 3(5)*. Retrieved from http://www.doh.gov.ph/sites/default/files/Vol.%203%20Issue%205%20November%202008.pdf

Department of Health. (2011). *Woeful Suicide*. Retrieved from http://www.doh.gov.ph/content/woeful-suicide.html

Donker, T., Griffiths, K., Ciojpers, P., & Christensen, H. (2009). Psychoeducation for depression, anxiety and psychological distress: a meta-analysis. *BMC*, *7*(79), 1-9.

Edwards, J., Elkins, K., Hinton, M., Harrigan, S., Donovan, K., Athanasopoulos, O., & McGorry, P. (2006). Randomized Controlled Trial of a cannabis-focused intervention for young people with first episodes psychosis. *Acta Psychiatrica Scandinavia*, *114*(2), 109-117.

Gellis, Z., Kenaley, B., & Have, T. (2014). Integrated Telehealth care for Chronis Illness and Depression Geriatric Home care patients: The integrated Telehealth Education and Activation of Mood study. *Journal of American Geriatric Society*. *62*(5), 889-895.

Halpern, S., & Douglas, M. (2005). Evidence-based Obstetric anesthesia. Malden, Massachusetts: Blackwell Publishing.

Higgins, J., Thompson, S., & Deeks, J. (2003). Measuring inconsistency in meta-analysis. *BMJ*, 327, 557-560.

Julien, D., Gauvin, L., Richard, L., Kestens, Y., & Payette, H. (2013). Longitudinal Associations Between Walking Frequency and Depressive Symptoms in Older Adults: Results from the VoisiNuAge Study. *Journal of the American Geriatrics Society*, *61*(12), 2072-2078.

Krishen, A. S. (2015). So close yet so far away: The moderating effect of regulatory focus orientation on health behavioral intentions. *Psychology & Marketing*, *32*(5), 522-531.

Lapeña, C. (2015). *Suicide and the Pinoy youth.* Retrieved from http://www.gmanetwork.com/news/story/524070/lifestyle/healthandwellness/special-report-suicide-and-the-pinoy-youth

Lukens, E., & McFarlane, W. (2004). Psychoeducation as Evidenced-based Practice: Considerations for practice, Research, and Policy. *Brief Treatment and Crisis Intervention*, *4*(3), 205-225.

Mason, W., Haggerty, K., Fleming, A., & Goldstein, M. (2012). Family Interventions to Prevent Depression and Substance Use among adolescents of depressed parents. *Journal of Child Family Studies*, *21*, 891-905.

National Alliance in Mental Illness. (2013). *Mental Illness facts and Numbers*. Retrieved from http://www2.nami.org/factsheets/mentalillness_factsheet.pdf

Rabovsky, K., Trombini, M., Allemann, D., & Stoppe, G. (2012). Efficacy of bifocal diagnosis-independent group psychoeducation in severe psychiatric disorders: results from a randomized controlled trial. *European Archives Psychiatry Clinical Neuroscience*, *262*(5), 431-440.

Ram, S., Narayanasamy, R., & Barua, A. (2013). Effectiveness of group psycho-education on well-being and depression among breast cancer survivors of Melaka, Malaysia. *Indian Journal of Palliative Care*, *19*(1), 34.

Reinares, M., Colom, F., Moreno, J., Torrent, C., Aran, A., Comes, M., ... Vieta, E. (2008). Impact of caregiver group psychoeducation on the course and outcome of bipolar patients in remission: a randomized controlled trial. *Bipolar Disorders. 10*(4), 511-519.

World Economic Forum and Harvard School of Public Health. (2011). *The Global Economic Burden of Non-communicable Diseases*. Retrieved from www.weforum.org

World Health Organization. (2015). *Depression*. Retrieved from http://www.who.int/topics/depression/en/

Zou, H., Li, Z., Nolan, M., Arthur, D., Wang, H., & Hu, L. (2013). Self-Management education interventions for persons with schizophrenia: A meta-analysis. *International Journal of Mental Health Nursing*, *22*(3), 256-271.