



RESEARCH ARTICLE

THE BURDEN OF MENTAL ILLNESS IN INDIA: PHYSICAL ACTIVITY–A COST-EFFECTIVE WAY FORWARD

\*Dr. Abdul Roof Rather

Department of Physical Education, Aligarh Muslim University, Aligarh, Uttar Pradesh, India 202002

ARTICLE INFO

Article History:

Received 21<sup>st</sup> October, 2017  
Received in revised form  
29<sup>th</sup> November, 2017  
Accepted 08<sup>th</sup> December, 2017  
Published online 31<sup>st</sup> January, 2018

Key words:

Mental Illness, Physical Activity,  
Cost-effective, India.

ABSTRACT

Mental illnesses are the diseases of prolonged duration and mostly slow in progression. Low-income and lower middle income countries currently faces the burden of mental illness, greater loss of lives and economy of the country. Mental illness is recognized as major contributor to adverse health conditions, poverty and thus a barrier to economic development. At least 13.7% of India's general population has been projected to be suffering from a variety of mental illnesses; and 10.6% of this requires immediate intervention. This article explores the burden of mental illness in India (a lower middle-income country). It also discusses the role of physical activity as prevention and treatment measure for mental illness. After reviewing different articles and reports from World Health Organization and other national and international organizations, it was found that in India health care system is not yet fully re-oriented to address the mental illness burden. Hence, physical activity must be promoted and recommended as a cost-effective intervention to address this burden.

Copyright © 2018, Dr. Abdul Roof Rather. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Dr. Abdul Roof Rather, 2018. "The burden of mental illness in India: Physical activity–a cost-effective way forward", *International Journal of Current Research*, 10, (01), 64490-64493.

INTRODUCTION

The world health organization constitution states that "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". An important implication of this definition is that mental health is more than just the absence of mental illness or disabilities. This indicates that mental health is an integral and essential component of health. Multiple social, psychological, and biological factors determine the level of mental health of a person at any point of time. For example, persistent socio-economic pressures, stressful work conditions, unhealthy lifestyle, physical ill-health etc. The burden of mental illness continues to grow with significant impacts on health and major social, human rights and economic consequences in all countries of the world. It is very pleasing to see that in first world countries health is now a very high priority for governments and other agencies but at the very same time it is saddening for the people of low and middle income countries that their governments are not rich enough to bear the burden of sophisticated primary health care. Hence, leaves them with poor health care facilities and huge and increasing burden of health problems. Day-by-day the condition of the health, both physical as well as mental health, is getting very much deteriorated and the number of affected people increases with

every passing minute. Mental health contributes to the major part of the health of a human being and any kind of clinical imbalance in mental health is known as mental illness/mental disorder. Mental illnesses are psychological problems of clinical magnitude as enlisted in *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2013). Mental illness include: depression, bipolar affective disorder, schizophrenia and other psychoses, dementia, intellectual disabilities and developmental disorders including autism. It is vital to have a full understanding of the culture, historical background and economic condition of the people with mental illness. This will help us in attempting to understand the availability of treatment procedures and actual implication of the available resources/methods.

MATERIALS AND METHODS

Databases like Science Direct, Google Scholar, Pubmed, JSTOR, reports from World Health Organization and other national and International Organizations were used for the systematic literature review. Besides that a few books were reviewed also. The literature reviewed is discussed below.

DISCUSSION

Mental Illness Burden in India

A countrywide National Institute of Mental Health & Neurosciences (NIMHANS) study has revealed a shocking

\*Corresponding author: Dr. Abdul Roof Rather,  
Department of Physical Education, Aligarh Muslim University,  
Aligarh, Uttar Pradesh, India 202002

prevalence of mental illness in India. At least 13.7% of India's general population has been projected to be suffering from a variety of mental illnesses; and 10.6% of this requires immediate intervention (Times of India, 2016). Analysis by the Alliance of Global Burden of Disease data reveals that: The burden of mental illness will increase more rapidly in India over the next ten years. In 2013, 31 million years of healthy life were lost to mental illness in India. Estimates suggest that by 2025, 38.1 million years of healthy life will be lost to mental illness in India (23% increase). In India substance use illness are more common in men than women, the burden of drug dependence illness was more than twice as high for men as women, and the burden of alcohol use illness was nearly seven times higher for men as women. Dementia is a growing problem for India. From 2015 to 2025, it is estimated that the number of healthy years lost due to dementia will increase by 82% in India (from 1.7 million to 3.2 million) (The Lancet, 2016). Economic burden of mental illness is twofold; 1) disability of the mentally ill person to do any kind of work properly, and 2) expenditure on treatment. According to NMHS (2016) report, the median expenditure for each visit to a health care provider ranged from Rs.500 for psychoses and alcohol use illness to Rs.1200 for Bipolar affective disorder. On an average Rs.1500 was spent towards treatment and care of persons affected with alcohol use disorder, Rs.2000 per month for bipolar affective disorder. For any category of mental disorder Rs.1000 (median) and above had to be spent for care and treatment which is a significant amount in the light of the relationship between poverty and mental illness. WHO (2016) report mentioned that an analysis found that in India half of the out-of pocket expenditures made by households for psychiatric illness came from loans and a further 40% from household income or savings.

(5.6%), depressive disorders (5.1%), neurotic and stress related disorders (3.7%), agoraphobia without panic disorder (1.6%), panic disorder (0.5%), generalized anxiety disorders (0.6%), social phobia (0.5%), OCD (0.3%) and post traumatic stress disorder (0.2%) (Figure 1).

### Mental Health Care System in India

Low income and lower middle income countries face a great deal of problems while dealing with Mental Illness. India is a low middle income country (based on World Bank criteria, 2010) were on one hand, mental illness are estimated to contribute to 11.6% of the global burden of disease. On the other hand, only about 1 in 10 people with mental health illness are thought to receive evidence-based treatments (The Lancet, 2016). The mental health care units and facilities are very poor with a total of 43 mental hospitals. For 14.52 admissions per 100,000 population to mental hospitals only 1.46 beds are available. Not only this, for 100,000 population only 0.301 psychiatrists, 0.166 nurses, 0.047 psychologists, 0.033 social workers are available that means for every 1 million people, there are just 3 psychiatrists, and even fewer psychologists. Same is the case with occupational therapists and other health works. And on the other hand, mental health expenditures by the government health department/ministry are 0.06% of the total health budget (4.16% is total health expenditure) and no officially approved mental health policy exists. However, mental health is specifically mentioned in the general health policy. 2009 mental health plan and 1987 legislation do exist, besides that mental health is covered in other laws, but all of these are having low impact on the community in general and mentally ill in particular (WHO, 2011, 2016). There exists a huge treatment gap for all types of

Prevalence of mental illness in India (Weighted Percent)

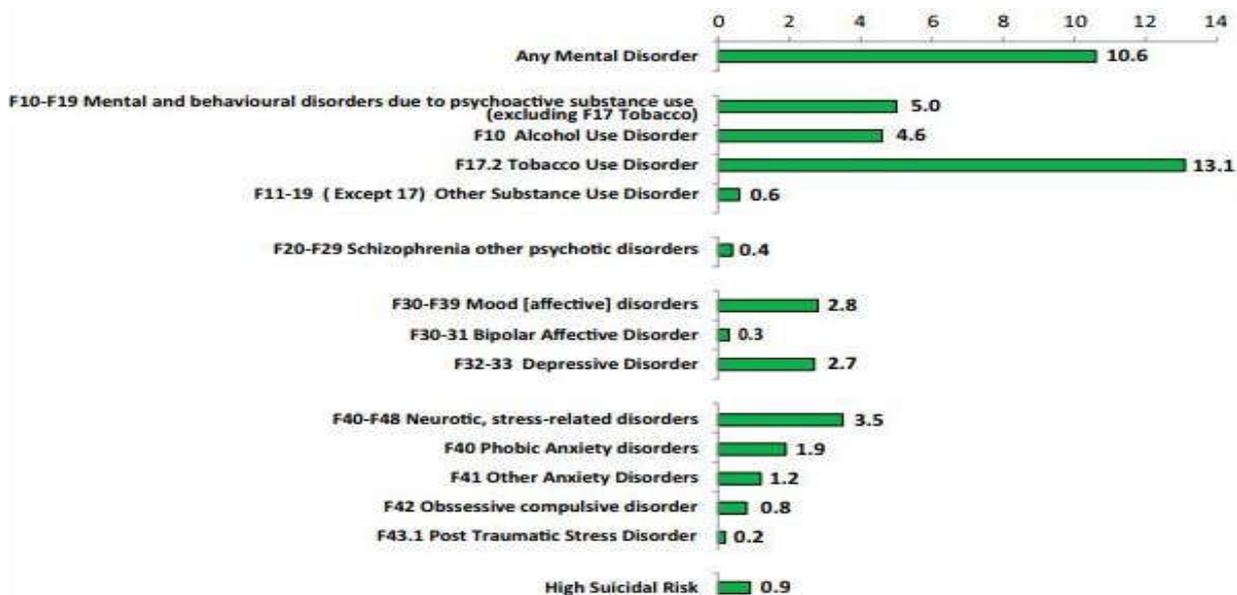


Figure 1. Original, Source (National Mental Health Survey of India, 2015-16)

### Prevalence of mental illness in India

The prevalence of mental illness in India as per National Mental Health Survey (2015-16) report is as: risk of suicide (6.4%), tobacco dependence (18.9%), mental and behavioral problems due to psychoactive substance use (22.4%), schizophrenia and psychotic disorders (1.4%), mood disorders

mental health problems in India ranging from 74% to 90% all mental illness and 81% to 86% for common mental illness and substance use illness, respectively (NMHS, 2016).

### Need for Treatment

Need for treatment is a complex clinical decision that takes into consideration symptom severity, symptom salience (e.g.,

the presence of suicidal ideation), the patient's distress (mental pain) associated with the symptom(s), disability related to the patient's symptoms, risks and benefits of available treatments, and other factors (e.g., psychiatric symptoms complicating other illness) as mentioned in *Diagnostic and Statistical Manual of Mental Disorders*, version V (DSM-5) (American Psychiatric Association, 2013). The *International classification of Diseases-10* (ICD-10) (World Health Organization, 2010) classifies mental and behavioural disorders with some specific numerical codes. Such classifications help clinicians and researchers in diagnosis of the disorders. The statistical records from various national and international reports revealed that the pandemic of mental illness and the severe condition of primary mental health care system (PMHCS) in India is having far reaching health and economic consequences. It becomes pertinent on behalf of all concerned parties to contribute for the development of PMHCS. As evident poor economic condition puts a limit to the health and welfare system in countries like India, PMHCS suffers the most. Hence, 'search for' and 'application of' cheap and effective means of mental health and wellbeing becomes a necessity. This leads us to search for any such evidence based measures; which are cost-effective, have strong research background, and are easily available to people from all walks of life. Cost-effectiveness is potentially an important aid to public health decision-making but, with some notable exceptions, its use and impact at the level of individual countries is limited (Hutubessy, 2003).

### Physical Activity—A Cost-Effective Measure

Physical Activity is one such measure which fulfills the criteria of cost-effectiveness and is evidence based. Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure. Regular moderate intensity physical activity – such as walking, cycling, or participating in sports – has significant benefits for health. The daily moderate-intensity exercise is effective and also provides less risk of injury and discomfort (see for example Doyne et al, 1987; Martinsen, 1990; Ossip-Klein et al, 1989). The American college of sports medicine (1991) provided the guideline that exercise of 15-30 minutes is sufficient to promote positive mental health (see for example Brown, 1990; Dishman, 1985, 1986; Morgan, 1988). World Health Organization has recommended 150 minutes a week of moderate-intensity physical activity for a healthy life. Physical activity has been used both as prevention (*Clinical Symptoms → No discernible mental illness/health → Wellness/Wellbeing*) and treatment (*Clinical Symptoms → No discernible mental illness/health*) measure. In both the conditions exercise had shown potential for psychological improvements on people of all ages and sexes (Leith, 2002). Available evidence in favour of the protective (see for example Camacho *et al.*, 1991), preventative (see for example, Mammen and Faulkner, 2013) and treatment effect (see for example Rimer *et al.*, 2012; Cooney *et al.*, 2013; Robertson *et al.*, 2012; Dunn *et al.*, 2005) of physical activity on depression and other mental illnesses like that of schizophrenia (see for example Falloon and Talbot, 1981; Pelham *et al.*, 1993; Martinsen, 1990a,b; Planet, 1993; Faulkner and Sparkes, 1999; Fogarty and Happell, 2005; Vancampfort *et al.*, 2012, 2013; Scheewe *et al.*, 2013) and clinical anxiety (see for example Jayakody *et al.*, 2014; Goodwin, 2003; Azevedo Da Silva *et al.*, 2012; Herring *et al.*, 2010) is significant enough to suggest physical activity as a prevention and treatment measure for mental illness.

### Conclusion

Ample research evidence is available that shows the link between physical activity and mental illness reduction. If we wait until the evidence is even more convincing and much improved, we will deny many people the varied benefits of physical activity. Moderate-intensity physical activity is risk free and always promotes positive effects on health. Hence, there is no harm in recommending physical activity as a treatment for mental illness. Besides this awareness is needed about the role of physical activity in the treatment of mental illness which will help mentally ill people to adopt this cost-effective treatment to live independently for longer and will thereby reduce the costs in the health care both at individual as well as state levels.

### REFERENCES

- American Psychiatric Association, 2013. *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5).
- Azevedo Da Silva, M., Singh-Manoux A., Brunner, E. J., Kaffashian, S., Shipley, M. J., Kivimaki, M. and Nabi, H. 2012. Bidirectional association between physical activity and symptoms of anxiety and depression: The Whitehall II study. *European Journal of Epidemiology*, 27, pg 537-546.
- Brown, D. R. 1990. Exercise, fitness, and mental health. In R. Bouchard, R. Shephard, T. Stephens, J. Sutton and B. McPherson (Eds.), *Exercise, fitness and health*. Champaign, IL: Human Kinetics. Pg 607-626.
- Camacho, T. C., Roberts, R. E., Lazarus, N. B., Kaplan, G. A. and Cohen, R. D. 1991. Physical activity and depression: Evidence from the Alameda Country Study. *American Journal of Epidemiology*, 134(2), pg 220-231.
- Cooney, G. M., Dwan, K., Greig, C. A., Lawlor, D. A., Rimer, J., Waugh, F. R. Mead, G. E. 2013. Exercise for depression. *Cochrane Database Systematic Review*, 9, CD004366. doi: 10.1002/14651858.CD004366.pub6.
- Dishman, R. K. 1985. Medical psychology in exercise and sports. *Medical clinics of North America*, 69, pg123-143
- Dishman, R. K. 1986. Mental health. In V. Seefeldt (Ed.), *Physical activity and well-being*. Reston, VA: American Association for Health, Physical Education and Recreation Publications. pg 304-340.
- Doyne, E. J., Ossip-Klein, D. J., Bowman, E. D., Osborn, K. M., McDougall-Wilson, J. B., and Neimeyer, R. A. 1987. Running versus weight-lifting in the treatment of depression. *Exercise and Sports Sciences Reviews*, 19, pg 41-98.
- Dunn, A., Trivedi, M. H., Kampert, J., Clark, C. G. and Chambliss, H. O. 2005. Exercise treatment for depression: Efficacy and dose-response. *American Journal of Preventive Medicine*, 28(1), pg 01-08.
- Falloon, I. R. H. and Talbot, R. E. 1981. Persistent auditory hallucinations: Coping mechanisms and implications for management. *Psychological Medicine*, 11, pg 329-339.
- Faulkner, G. E. J. and Sparkes, A. 1999. Exercise as therapy for schizophrenia: An ethnographic study. *Journal of Sports and Exercise Psychology*, 21, pg 52-69.
- Fogarty, M. and Happell, B. 2005. Exploring the benefits of an exercise program for people with schizophrenia: A qualitative study. *Issues in Mental Health Nursing*, 26(3), 341-351.
- Goodwin, R. D. 2003. Association between physical activity and mental disorders among adults in the united states. *Preventive Medicine*, 36(6), pg 698-703.

- Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh LK, Mehta RY, Ram D, Shibukumar TM, Kokane A, Lenin Singh RK, Chavan BS, Sharma P, Ramasubramanian C, Dalal PK, Saha PK, Deuri SP, Giri AK, Kavishvar AB, Sinha VK, Thavody J, Chatterji R, Akoijam BS, Das S, Kashyap A, Ragavan VS, Singh SK, Misra R and NMHS collaborators group. 2016. National Mental Health Survey of India, 2015-16: Prevalence, patterns and outcomes. Bengaluru, National Institute of Mental Health and Neuro Sciences, NIMHANS Publication No. 129.
- Herring, M. P., O'Connor, P. J. and Dishman, R. K. 2010. The effect of exercise training on anxiety symptoms among patients: A systematic review. *Archives of International Medicine*, 170(4), pg 321-331. doi: 10.1001/archinternmed.2009.530.
- Hutubessy, R., Chisholm, D., Edejer, T. T. and WHO-CHOICE. 2003. Generalized cost-effectiveness analysis for national-level priority-setting in the health sector. *Cost-Effectiveness and Resource Allocation*. *BioMed Central*. <http://www.resource-allocation.com/content/1/1/8>
- Jayakody, K., Gunadasa, S. and Hosker, C. 2014. Exercise for anxiety disorders: Systematic review. *British Journal of Sports Medicine*, 48(3), pg 187-196.
- Leith, M. L. 2002. The mental health/ mental illness distinction. Foundations of exercise and mental health. Fitness Information Technology, Inc. pg 01-10
- Mammen, G. and Faulkner, G. 2013. Physical activity and the prevention of depression: A systematic review of prospective studies. *American Journal of Preventative Medicine*, 45(5), pg 649-657. doi: 10.1016/j.amepre.2013.08.001.
- Martinsen, E. W. 1990a. Benefits of exercise for the treatment of depression. *Sports Medicine*, 9(6), pg 380-389.
- Martinsen, E. W. 1990b. Physical fitness, anxiety, and depression. *British Journal of Hospital Medicine*, 43, pg 197-199
- Morgan, W. P. 1988. Exercise and mental health. In R. K. Dishman (Ed.), *Exercise adherence: its impact on public health*. Champaign, IL: Human Kinetics, pg 91-121
- Ossip-Klein, D. J., Doyne, E. J., Bowman, E. D., Osborn, K. M., McDougall-Willson, J. B. and Neimeyer, R. A. 1989. Effect of running or weight lifting on self-concept in clinically depressed women. *Journal of Consulting and Clinical Psychology*, 57, pg 158-161.
- Planet, T. G. 1993. Aerobic exercise in prevention and treatment of psychopathology. In P. Seraganian (Ed.), *Exercise Psychology. The influence of physical exercise on psychological processes*. New York: John Wiley, pg 358-379.
- Rimer, J., Dwan, K., Lawlor, D. A., Greig, C. A., McMurdo, M., Morley, W. and Mead, G. E. 2012. Exercise for depression. *Cochrane Database Systematic Review*, 7, doi: 10.1002/14651858.CD004366.pub5.
- Robertson, R., Robertson, A., Jepson, R. and Maxwell, M. 2012. Walking for depression or depressive symptoms: A systematic review and meta-analysis. *Mental Health and Physical Activity*, 5, pg 66-75.
- Scheewe, T. W., Backx, F. J., Takken, T., Jorg, F., van Strater, A. C., Kroes, A. G. and Cahn, W. 2013. Exercise therapy improves mental and physical health in schizophrenia: A randomized controlled trail. *Acta Psychiatrica Scandinavica*, 127(6), pg 464-473.
- The Lancet, 2016. One-third of global burden of mental illness occurs in China and India, experts highlight need for action. *Science Daily*. Retrieved December 6, 2017 from [www.sciencedaily.com/releases/2016/05/160518220605.htm](http://www.sciencedaily.com/releases/2016/05/160518220605.htm)
- Times of India. 13.7% Indians are mentally ill, study says. Retrieved from <https://timesofindia.indiatimes.com/city/bengaluru/13-7-Indians-are-mentally-ill-study-says/article-show/54805096.cms>
- Vancampfort, D., Correll, C. U., Scheewe, T. W., Probst, M., De Herdt, A., Knapen, J. and De Hert, M. 2013. Progressive muscle relaxation in persons with schizophrenia: A systematic review of randomized controlled trails. *Clinical Rehabilitation*, 27(4), 291-298.
- Vancampfort, D., Probst, M., Skjaerven, L. V., Catalan-Matamoros, D., Lundvik-Gyllensten, A., Gomez-Conesa, A. and De Hert, M. 2012. Systematic review of the benefits of physical therapy within a multidisciplinary care approach for people with schizophrenia. *Physical Therapy*, 92, pg 11-23.
- World Health Organization, 2010. *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical descriptions and diagnostic guidelines*. Geneva: WHO.
- World Health Organization, 2013. *Investing in mental health: evidence for action*. Geneva:WHO. ISBN 978 92 4 156461 8. [www.who.int/mental\\_health/en/](http://www.who.int/mental_health/en/)
- World Health Organization, 2015. *Mental health care in India: restoring hope and dignity*. Geneva: WHO. <http://www.who.int/features/2015/mental-health-care-india/en/>

\*\*\*\*\*