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Effect Of Exercise Intervention On Selected Psychological Variables: A Systematic Review

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Abstract

Anxiety, depression, and stress are the most common psychological concerns among the population of society. The desirable changes in mental health are obtained through therapeutic diagnosis i.e., physical exercise practice and physical activity participation which are having a great potential as a prevention and treatment for these psychological issues. The purpose of the study was to systematically review the evidences for the effect of an exercise program on psychological variables i.e., anxiety, depression, and stress. For this purpose 198 research articles were reviewed from the available resources i.e. Research Gate, Pub Med, Google Scholar, Springer, Scopus, Web of Science and sample of 38 research articles were selected for the study as per the inclusion criteria. This study was given an idea that exercise interventions were beneficial in reducing the anxiety, depression, and stress. Further, research literature evidently reported that exercise in detention environments improves mental health. Findings of the study were concluded that low to high intensive exercise practices, physical activities and participation in recreational games brought the significant improvement in psychological variables i.e., anxiety, depression, and stress respectively in place of the alternative of drugs and other clinical treatment methods.

Keywords - Exercise Science, Hyperventilation, Syndrome, and Psychological Wellness.

INTRODUCTION

Mental disorders are the major public health concerns and anxiety, depression and stress syndromes were the most common psychological problems (Kessler et. al., 1994.). Mental health problems have increased across all the ages, genders, and socioeconomic groups over the years. Institute for Health Metrics and Evaluation, (2017) study on "Global Burden of Disease" findings states that anxiety and depressive disorders were the top leading disease problems in young people. Further, on the basis of WHO, (2017): Depression Fact Sheet – which updates that depression disorders were affecting in varying degrees more than 300 million people worldwide. According to ten-year reports of National Board of Health and Welfare (2006–2016) highlights the number of receiving assistance from healthcare for depression or anxiety has increased significantly in children and juveniles respectively.

Moreover, the most recognised risk factors which are difficult to adjust for anxiety, depression, and stress were familial risk, socioeconomic position, and life events (Weich, 1997). Outcomes of some studies guides that physical activity practices lifestyle factor interventions were targeting towards the prevention of anxiety, depression, and stress (Teychenne, et. al., 2008 and Schuch, et al., 2016). Further, based on the studies of

Goodwin (2003) and Harvey, et. al. (2010) reported that exercise reduces the rate of anxiety, depression and stress. Benjamin Rush (father of psychiatry) and William James (father of psychology) both recommended the physical activity practice involvement as a measure to overcome the psychological issues. Further, Dishman, et. al. (2004) advocates about the identification of exercise interventions that helps in mood regulation and decreased anxiety respectively. Additionally, exercises were considered as a therapeutic intervention for the psychological disorders due to massive physical health as well as mental health benefits respectively (De Sa Filho, et al. 2015; De Souza Moura, et al. 2015; Rimes, et al. 2015; and Lattari, et al. 2015). Wipfli (2008) also reports that regular exercises were having a significant benefits to treat anxiety and depression. And, Gaudlitz, et. al. (2015) identifies that association of aerobics exercise with cognitive behavioural therapy were also having a significant role in reducing anxiety levels. Biddle (1993) and Ekland (2003) reported that psychotherapy, psychosocial and pharmacological interventions were the most commonly applied treatment methods to treat people with psychological disorders such as, anxiety, depression, and stress respectively. But, sometimes stress management techniques and physical activity were also used as treatment (Biddle, 1993) and Ekland, 2003).

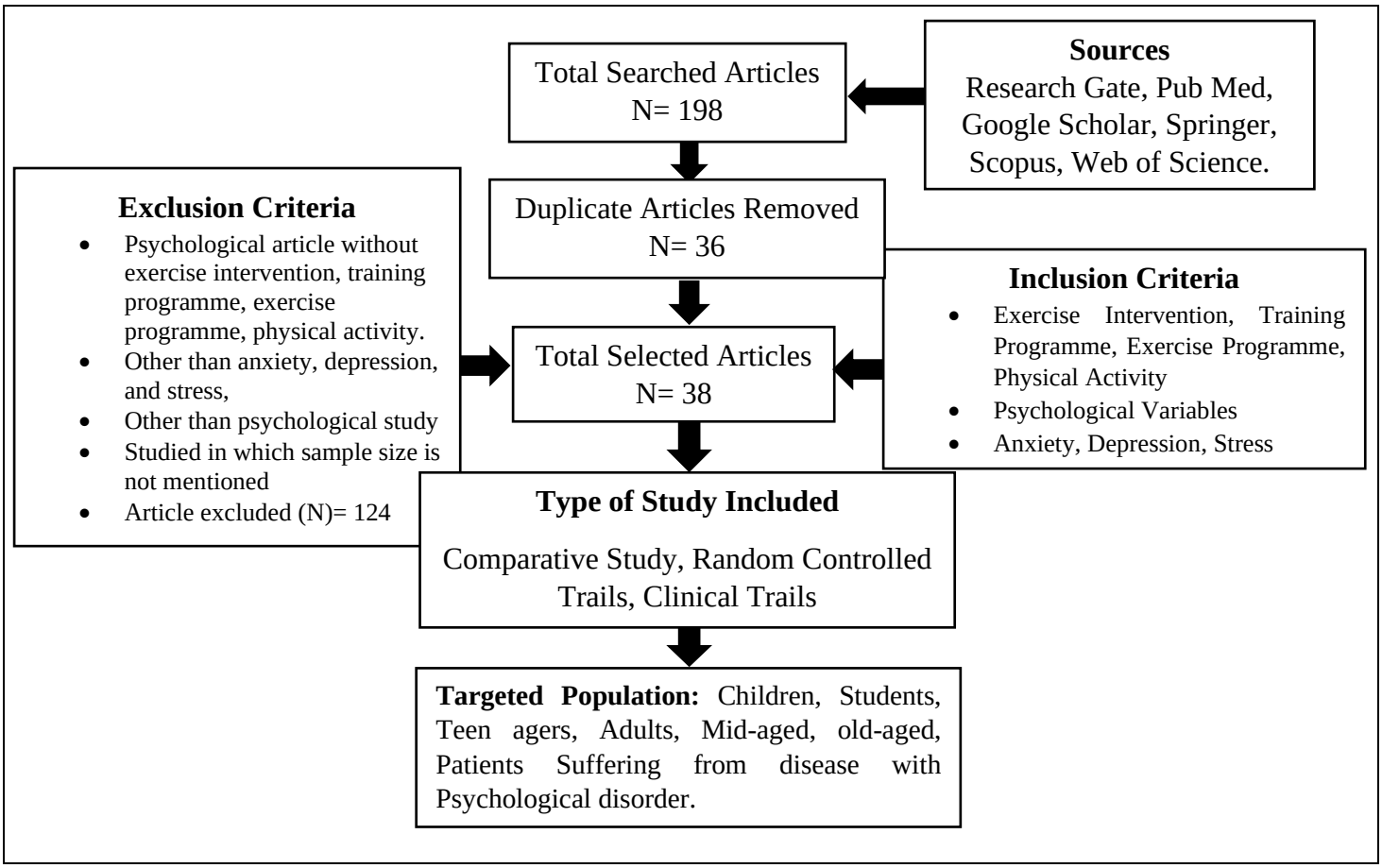
In fact, exercises are the promising treatment intervention for psychological disorders (Ströhle, 2009). But, several studies have endeavoured to find out the correlation among exercise and psychological well-being and the research in this domain has expanded from last three decades comprehensively (Insel and Roth, 2005). Further, King, et. al. (1989) and Atlantis, et. al. (2004) also adds that due to heterogeneity in the population (age, gender, characteristics and severity/intensity of disorder), type of exercise and their mode and intensity, few studies shows some differences in the favourable effect of exercise interventions on the prevention of psychological disorders (anxiety, depression, and stress). Addressing these inquiries and knowledge are significant, as it will further illuminate the general society about which sort of physical activity or exercise is effective to treat particular psychological disorder. Hence, this article was featured a later survey article on the impact of exercise interventions and psychological factors like anxiety, depression, and stress (Rundown in Table 1.0).

METHDOLOGY

The available literature on exercise intervention on psychological variables were considered for the present study. A Total 198 research articles were reviewed and 38 sample papers were taken for this study from the available resources i.e. Research Gate, Pub Med, Google Scholar, Springer, Scopus, and Web of Science.

Figure- 1.0

PRISMA Flow Chart of the Study


Total Searched Articles
N= 198
Sources
Research Gate, Pub Med, Google Scholar, Springer, Scopus, Web of Science.
Duplicate Articles Removed
N= 36
Exclusion Criteria
Psychological article without exercise intervention, training programme, exercise programme, physical activity.
Other than anxiety, depression, and stress,
Other than psychological study
Studied in which sample size is not mentioned
Article excluded (N)= 124
Inclusion Criteria
Exercise Intervention, Training Programme, Exercise Programme, Physical Activity
Psychological Variables
Anxiety, Depression, Stress
Total Selected Articles
N= 38
Type of Study Included
Comparative Study, Random Controlled Trails, Clinical Trails
Targeted Population: Children, Students, Teen agers, Adults, Mid-aged, old-aged, Patients Suffering from disease with Psychological disorder.

FINDINGS

Table- 1.0 Effect of Exercise Interventions on Selected Psychological Variables

S.No.	Author	Place of Study	Sample	Design	Type Of Exercise	Intervention Period	Sampling Method	Variables	Findings
1.	Aras, D. and Ewert, AW. (2016)	Ankara University, Turkey	N= 19	Pre and Post Test Intervention	Rock Climbing	8 Weeks	Volunteer sampling	Anxiety (Competitive State Anxiety)	Sports rock climbing intervention controls and decrease the level of anxiety.
2.	Atlantis E, et. al. (2004)	University of Sydney, Australia	N= 244	Pre and Post Test Intervention	Aerobic and Weight-Training Exercise	24-Week	Purposive	Depression Anxiety and Stress	24-weeks aerobic exercise and weight-training were significantly effective treatment for depression anxiety and stress disorders.
3.	Aylett, E. et. al. (2018)	England	N= 695	Random Control Trails	Walking, Brisk Walking, Jogging, Treadmill Running	2 To 10 Weeks	Purposive	Anxiety (clinical anxiety)	High intensity exercise regimens were found more effective than low intensity regimens to treat clinical anxiety.
4.	Blumenthal, J. A. et. al. (2007)	Duke University Medical Centre, Durham, North Carolina	N= 202	Random Control Trails	Walking and Jogging on Treadmill	16-Week	Purposive	Depression (major depression)	Aerobic exercise training exhibited the positive impact in major depression reduction in comparison to antidepressant either it perform in supervised group or at home.
5.	Broman-Fulks, J. J., and Storey, K. M. (2008)	Appalachian State University, USA	N= 24	Comparative Study	Brisk Walk and Jog on Treadmill	2 Weeks	Purposive	Anxiety (anxiety sensitivity)	Six 20-minute sessions of aerobic exercise significantly decreases anxiety sensitivity.
6.	Carta, M. G. et. al. (2008)	University of Cagliari, Italy	N= 30	Randomized Control Trail	Physiological Strengthening	32 Weeks	Purposive	Depression (Major Depressive Disorders)	Physical activity seems to be a good adjunctive treatment in the long term management of patients with Major Depressive Disorders.

7.	Collado-Mateo, D. et. al. (2017)	University of Extremadura, Cáceres, Spain	N=83	Randomized Control Trail	Aerobic Conditioning, Strength, and Mobility	8-Week	Purposive	Anxiety (fibromyalgia)	8 week exercise intervention was an effective programme for reduction of fibromyalgia in Women.
8.	Demers, R. N. (2013)	North Dakota State University	N= 78	Per and Post Test Intervention	Group Walking, Cycling, Step, Dance, or Other Aerobic Activities	6 Weeks	Purposive	Depression and Anxiety	A 6 week exercise intervention programme was an effective tool to improve symptoms of depression and anxiety in college students.
9.	Edwards S. (2006)	Zululand Universit, South Africa	N=26	Correlation	Tai Chi, Yoga, Aerobic Exercise and Resistance Training	6 Months	Purposive	Psychological wellbeing (Stress)	Regular exercise and health clubs were important factors for improvements in well-being.
10.	Fischetti, F. (2019)	University of Study of Bari, Italy	N= 36	Longitudinal Research Design	Aerobic, Resistance and Postural Exercises Intervention	8 Weeks	Purposive	Stress (perceived stress)	Combined aerobic, resistance and postural exercises intervention improves the physical fitness as well as positive emotions in lymphoma patients.
11.	Fisher, E. et. al. (2020)	University of Birmingham, Edgbaston, UK	N= 22	Randomised Control Trail	Running, Cycling, Swimming, Tennis, Squash, Badminton, Circuit Training and Football	12 Weeks	Purposive	Stress (oxidative stress)	Moderate-intensity exercise training brought the changes in markers of oxidative stress and antioxidant concentration, with subsequent improvements in symptoms of psychosis.
12.	Gerber, M. et. al. (2020)	University of Basel, Basel, Switzerland;	N= 25	Randomised Controlled Trial	Aerobic Exercise (Indoor Bicycles), Flexibility Exercise and Mobility Exercise	6 Weeks	Purposive	Stress (cortisol stress)	Six weeks of aerobic exercise training are insufficient to impact on patients' cortisol stress reactivity.

13.	Harvey, S. B. et. al. (2017)	Nord-Trondelag County of Norway	N= 33,908	Hunt Study	Walking and Swimming	5 Weeks	Purposive	Depression and Anxiety	Regular leisure-time exercise of any intensity provides protection against depression but not against anxiety.
14.	Hassmén, P. (2000)	Finland	N= 3403	Cross-Sectional Study	Any Kind Of Physical Activity	1 Month	Purposive	Stress	Exercise for 2 or 3 times in a week reported a lower level of stress than the individuals who didn't participate in exercise or any kind of physical activity.
15.	Helgadóttir, B. (2016)	Karolinska Institutet, Stockholm, Sweden	N= 945	Randomized Controlled Trial	Aerobics Exercises, Yoga (Balance and Stretching)	12 Weeks	Purposive	Depression	Light to vigorous intensity exercise should prescribe as the treatment for depression.
16.	Herman, S. et al (2002)	USA	N= 156	Randomized Controlled Trial	Aerobic Exercise	16 Weeks	Purposive	Depression (major depressive disorder)	Aerobic exercise sessions were as liable to be disappearing depression as those taking standard energizer drug (sertraline) or medicine and exercise jointly.
17.	Hoffman, M. B. et. al. (2009)	Duke University, USA	N=200	Pre and Post Test Intervention	Walking, Running, or Biking	16 Weeks	Purposive	Depression (Clinical Depression)	Four months aerobic exercise schedule (walking, running, or biking, 30 min/day, 3 days/week, to 70-85% of their heart rate reserve) was more effective than fake treatment and a pharmacological treatment for demising the depression.
18.	Jette, A.M., et. al. (1996)	England	N= 102	Randomized Controlled Trial	Isokinetic Muscle Strengthening Exercises	12 To 15 Weeks	Purposive	Depression	Physical exercisers showed positive improvement in male but females were not reported psychological

									benefits of physical exercise programme.
19.	Khorvash, M. et al. (2012)	Islamic Azad University, Isfahan, Iran	N= 120	Pre and Post Test Intervention	Short-Distance Sprint Running, Strength (Power) Work-Outs	10 Weeks	Volunteer (Purposiv)	Depression and Anxiety	The study suggested that endurance training is more effective for reducing depression.
20.	Kettunen, O. et. al. (2015).	University of Turku, Turku, Finland	N= 371	Longitudinal Research Design	Physical Activity, Walking, Skiing and Biking	12 Months	Purposive	Stress (occupational stess)	12 month exercise programme improves the stress level of working adults.
21.	Kruisdijk, F. R. et. al. (2012)	Netherlands	N= 280	Randomized Control Trial	Running or Nordic Walking	6 Months (Training) 6 Months (Follow-Up)	Purposive	Depression	Positive effect was found in aerobic exercise intervention on depression patients.
22.	Kyo-Man, K. and Chun-Jong, K. (2018)	Baekseok University, Cheonan, Korea	N= 6635	Randomized Control Trial	Walking Exercise, Strength Exercise, And Flexibility Exercise	9 years Annual follow-up	Stratified, cluster and systematic	Stress (Perceived stress)	Study founded that 5 days or more per week walking and flexibility exercise for male and female respectively can reduce the stress level in defined category.
23.	Lane, A. M. and Lovejoy, D. J. (2001)	University of Wolverhampton, Walsall	N= 80	Pre and Post Test Intervention	Dance Aerobics	3 month	Purposive	Depression	60 minutes aerobic dance intervention improves the level of depression.
24.	Martinsen, E. W. et. al. (1985)	Vikersund, Norway	N= 43	Longitudinal	Aerobic Exercise	9 Weeks	Purposive	Depression	Aerobic activity and word related treatment for depressed inpatients and discovered exercise to be essentially more compelling.

25.	Merom, D., et. al. (2008)	University of Sydney, Australia	N= 115	Randomized Control Trial	Brisk Walking	10 Weeks	Purposive	Depression, Anxiety, and Stress	8-10 weeks walking treatment decreased depression, tension, and stress scores for people with anxiety problems.
26.	Mota-Pereira, J. (2011)	Porto, Portugal	N= 33	Pre and Post Test Intervention	Walking	12 Weeks	Purposive	Depression (major depressive disorder)	Selected subjects in an activity group showed improvement on the whole depression and functioning parameters.
27.	Odynets, T. et. al. (2019)	Khortytsia National Academy, Zaporizhzhya, Ukraine	N= 124	Longitudinal	Water Exercises, Pilates And Yoga	12 Months	Purposive	Depression, and Anxiety (Clinical anxiety and depression)	Three time in a week for one hours practising a water exercise program for one year decrease the anxiety and depression levels in compression with Pilates and Yoga interventions.
28.	Psychou, D. et.al. (2020)	Institution of Grevena, Greece	N= 60	Randomized Control Trial	Circuit Resistance Training, Sport Games Participation, Musical Games and Greek Traditional Dance Activities	12 Weeks	Simple Random	Anxiety	60 minutes training program at a frequency of three sessions per week for 12 weeks was beneficial exercise intervention Greek prison settings for reduction of anxiety.
29.	Roberts, C. K. et. al. (2005)	University of California, Los Angeles	N= 15	Pre and Post Test Intervention	Treadmill Walking	3 Weeks	Purposive	Stress (oxidative stress)	3 week exercise intervention reduces oxidative stress among patients.
30.	Salehpoor, M. et. al. (2015)	Shiraz University, Iran.	N= 30	Pre and Post Test Intervention	Aerobics And Resistance Exercise With Dumbbell, Rope and Ball	8 Weeks	Accidental	Anxiety (Clinical anxiety)	Exercise intervention leads to decrease in the anxiety among students.

31.	Schnohr P, et. al. (2005)	Bispebjerg University Hospital, Copenhagen, Denmark	N= 12028	Cross-sectional Study	Walking And Jogging	2–4 H Of Walking Per Week	Simple Random	Stress	Stress get reduced as the amount of exercise gets increased.
32.	Shin Y. (1999).	Korea	N= 27	Pre and Post Test Intervention	Walking Exercise	8 Weeks	Purposive	Stress	Exercises might change the emotional state decidedly.
33.	Smith, J. A. et al. (2011)	USA	N= 81	Longitudinal Study	Yoga	8 Weeks	Volunteer	Depression, Anxiety, and Stress	Yoga intervention are helpful for treatment of depression, anxiety, and stress.
34.	Starkweather, R.A. (2007)	Washington State University, Spokane	N= 20	Cross-sectional Study	Walking	10 Weeks	convenience	Stress	The effect of a 10-week walking program decrease the stress and improve quality of life among older adults.
35.	Viana, R. B. et al. (2017)	Federal University of Goias, Goiania, Brazil	N= 40	Pre and Post Test Intervention	Exergame Zumba	1 Session	Simple Random	Anxiety (state anxiety)	Exergames zumba with moderate intensity founded the useful tool for the treatment of anxiety.
36.	Williams, P. and Lord, S.R. (1997)	Not Available	N= 187	Randomized Control Trail	Group Aerobic Exercises	12 Months	Purposive	Anxiety and Depression	Group exercise was found effective tool to treat physiological and cognitive functioning and wellbeing in older people.
37.	Wipfli, B. et al. (2011)	Oregon Health & Sciences University, Portland, Oregon, USA	Not Available	Pre and Post Test Intervention	Aerobics And Flexibility Exercise	7 Weeks	Simple Random	Anxiety	Moderate to high intensity exercise as well as light intensity exercises programme reduces anxiety.
38.	Zarshenas, S. et. al. (2013)	University of Medical Sciences, Isfahan, Iran	N= 82	Pre and Post Test Intervention	Aerobic Exercise Programme	4 Weeks	Purposive	Depression (clinical depression)	Four week aerobic exercise intervention decrease the depression among women.

Table 1.0 exhibits the reviewed studies on the effect of exercise interventions on selected psychological variables. Further the table also revealed the author name, place of study, sample, design of the study, type of exercise intervention, intervention period, sampling method, variables (anxiety depression, and stress) and findings of all the selected reviewed articles

Discussion of Findings

Anxiety

Anxiety syndrome were raised by 14.9 % between 2005-2015 and females (4.6%) were suffering more from anxiety syndrome as compared to males (2.6%) (WHO, 2017). Anxiety is possibly the most widely recognized psychological well-being sicknesses adding to helpless focus, passionate changes, hindered rest quality and troubles in performing day by day errands (Wegner et. al., 2014 and, Mogg and Bradley 2018).Worldwide, 264 million people (3.6%) were suffering from anxiety syndrome and the prevalence rates were peaking in older aged population (WHO, 2017). But, common indicators like perspiring, shaking, chills, quick heartbeat, poor mental state, hyperventilation, and tension were characterized as a mental issue (Yu et. al. 2018). In fact, Lepine, (2002) revealed that 25% of the populace reported at least one episode of anxiety disorder during their lifetime, and further, 6% of men and 13% of ladies experience an anxiety disorders. Earlier research outcomes considered exercise as alternative therapy for anxiety disorders due to its lower cost and fewer side effects in comparison to drug therapy and also recommends that physical activities and exercise were effectively recover anxiety symptoms (Wu, et. al. 2020; Stonerock, et. al. 2015; Wegner, et. al. 2014; and Carek, et. al. 2011). Further, Wipfli (2011) described that moderate to high-intensity exercise as well as light intensity exercises programme for university students reduces their anxiety levels. Wipfli et al. (2011), Smith et al. (2011), and Gallego et al. (2014) added that low-intensity exercise also decreases the anxiety levels of university students. Aras and Ewert (2016) conducted a pre- post-exercise intervention trial on anxiety suffered university students and findings demonstrated a significant tool to overcome the student's anxiety levels. Likewise, Viana and de Lira (2020), Viana et. al. (2017), and Collado-Mateo et. al. (2017) organised their studies to determine the effect of exergames on anxiety among women and reported that single session of 20 minutes with a moderate intensity of exergames decreases the anxiety of a healthy person. Further, these studies findings also recommended that daily 60 min per day session for 8 weeks of exergame improves the anxiety level of patients. Additionally, Khorvash (2012) identifies that resistance and aerobic exercises of moderate to high intensity decreases the level of anxiety in male university students. Salehpoor et. al. (2015) also reports that exercise intervention leads to decrease in the anxiety among students. Furthermore, Lindsey et. al. (2012), exercise interventions were having the capability of acting as an independent or correlative mediation for anxiety.

Depression

Depression is the main subsequent driving reason for worldwide psychological and substance use disorders which leads to injuries, premature mortality and adjusted disability life years (Whiteford et. al. 2013). WHO (2017) report on "Depression and Other Common Mental Disorders: Global Health Estimates" states that globally 322 million people (4.4%) were suffering from this syndrome. Further, females (5.1%) were suffering more than men (3.6%) from this depression syndrome and the prevalence rates were higher in older adulthood, and global depression syndrome rates were elevated by 18.4 % between 2005 - 2015 (WHO, 2017). Regardless of whether exercise improves depressive manifestations in older populaces has not been reliably shown in preliminaries; some have been positive (Williams and Ruler, 1997), while others have yielded no impacts (Jette et. al. 1996). A comparative study found that people in an activity group showed improvement on the whole depression and functioning parameters, with the control condition showing no reaction or reduction (Mota-Pereira et al., 2011). Exercise offers added viability as a component of a blend treatment development for both anxiety and depression. Likewise, Kruisdijk, et.

al. (2012) founded that adding serious vigorous exercise with pharmacotherapy or psychotherapy to treatment psychological disorders obviously offered advantageous temperament impacts for the treatment of wretchedness. An extra investigation identified that 8-10 week bunch intellectual conduct treatment in addition to physical practises when contrasted with a way of life instruction bunch essentially decreased depression, tension, and stress scores for people with anxiety problems (Merom et al., 2008). The first scientific journal of exercise as a treatment for clinical depression was published longer than a century prior by Franz and Hamilton (1905) reported great results following activity in emotional, cognitive and bodily manifestations in two seriously depressed patients. Later randomized controlled investigations have affirmed this perception and showed that activity is related to a stimulant impact. Among considers, contrasting activity and no treatment, Doyne and associates (1987) discovered running and weight-lifting exercise projects to be better than a holding up list control gathering. Martinsen et al. (1985) contrasted aerobic activity and word related treatment for depressed inpatients and discovered exercise to be essentially more compelling. Mead et. al. (2009) reported in the meta-analysis, a huge clinical impact of physical workout and exercise interventions on the indications of depression for grown-ups of both genders. Further, More precisely it was added that aerobic exercise demonstrated a moderate clinical impact, although blended and resistance exercise showed enormous impact In addition, when it linked against another setup treatment (i.e., cognitive behaviour therapy and antidepressants treatment), the practice seems to create similar outcomes. Blumenthal, et. al. (2007) reported that aerobic training (either performed at or in the supervised group) reduces the depression of a majorly depressed person as compared to an antidepressant (sertraline) and with fake treatment controls too. Furthermore, Herman et al (2002) also revealed that aerobic exercise sessions were as liable to be disappearing as those taking standard energizer drug (sertraline) or medicine and exercise jointly. Hoffman et. al. (2009) also added that four months aerobic exercise schedule was more effective than a fake treatment and pharmacological treatment for demising the depression. Additionally, Carta et. al. (2008) also suggested that eight months exercise programme was beneficial for the reduction of depression in 40 to 60-year-old depressed ladies. Furthermore, Zarshenas (2013) founded Four week aerobic exercise intervention decrease the depression among Iranian women and reported that exercise intervention has a large and significant effect on depression (Schuch et. al., 2016). Thus, the literature reported that exercises and physical activity are effective interventions to reduce depression.

Stress

Entities active in this culture are dealing with a stress due to their adjustments and lifestyle modifications as living in a complex and miscellaneous surroundings accordingly. Specifically, stress was the main reason of many syndromes that causes numerous medical issues. Most researches have reported that stress hinders endeavours to perform physical activity (Stults-Kolehmainen and Sinha, 2014). But, Edwards (2006) identified that unvarying exercise is equally resolutely identified with stress and the improvement of stress adapting capacities. Additionally, (Paluska and Schwenk, 2000), reported that, aerobic exercise and strength training efficiently diminish miserable symptoms. And, also protects an individuals from the unsafe outcomes of stress (Salmon, 2001).It was described that when physical workout was performed during leisure time in adequate amount drops the stress (Aldana et. al., 1996). Likewise, Schnohr et. al. (2005) identified that stress get reduced as the amount of exercise gets increased. Furthermore, Hassmén et. al. (2000), founded that involvement in exercise for 2 or 3 times in a week have been showed a lowers level of stress than non-involved individuals.Moreover, (Atlantis et. al., 2004) conducted a pre-post design study and concluded that indulging in aerobic exercise and weight-training for 24 weeks provides the noteworthy alterations in the amount of stress and psychological health. Conversely, Nigdelisa, (2018) reported that low to moderate intensive physical exercise was not

improving the perceived stress in middle-aged and old women. But, Norris et al., (1992) described that highly impacted aerobic exercises were effectively reduces the level of stress. Additionally, it was also recommended that 10 weeks walking and flexibility exercises (5 days or more per week) for male and female respectively reduces the stress level in defined category (Kyo-Man, and Chun-Jong, 2018) and improves quality of life among older adults (Starkweather, 2007). As depicted above, a moderate degree of activity improves temperament (Peluso and Guerra, 2005). Exercise additionally effectively affects patients taking antidepressants (Blumenthal et Al., 2007). But, it was also founded that 3 week exercise intervention and aerobic exercises intervention reduces oxidative stress among patients and Posttraumatic stress disorder (PTSD) respectively (Roberts et. al., 2005; Fisher et. al. (2020); and, Hegberg et. al., 2019). Further, Gerber et. al. (2020) identified that six weeks of aerobic exercise training was inadequate for the patients' cortisol stress. But, exercises changes the emotional state decidedly (Shin, 1999). Thusly, Exercise is an important treatment for stress and anxiety (Stubbs et. al., 2016) and sufficient sorts and levels of physical workout effectively affect psychological well-being and personal satisfaction stress too (Atlantis et al., 2004) and a 12 months exercise programme also improves the stress level of working adults (Kettunen, 2015).

Conclusion

On the basis of the findings it was concluded that low to high intensity daily physical exercise regime practice, individual physical activity, group physical activity, and regular participation in any type of game are significant tools for stress, anxiety, and depression management respectively.

Outcomes

Exploration hitherto is showing that daily low to high intensity exercise, physical activity, and regular participation in recreational games can be utilized as helpful methods for the treatment of acute and chronic stress, depression and anxiety in the general population of the society like children, students (school, college and university), teen agers, adults, mid-aged, old-aged, and patients suffering from disease with Psychological disorder. It was founded that aerobic exercises and walking programmes are most effective and most used interventions for the treatment of psychological disorder. Any individual suffering from stress, depression and anxiety can opt these exercise programmes.

Future Application

Exercise has useful effects on psychological functioning. Despite considering the effects of exercise and physical activity on stress, depression, and anxiety, our insight into the biophysical components associated with exercise and physical activity is inadequate to reduce stress, depression, and anxiety manifestations. These issues should be discussed by future studies to create improved, accurate, and standardized exercise programs for individuals with stress, depression, and anxiety symptoms. Further work is expected to develop experimentally wide-ranging strategies for exploring the role of exercise to get the most effective exercise intervention for the treatment of stress, depression, and anxiety and other affective disorders.

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