

Prevalence and Impact of Exercise Addiction among Individuals Attending Gyms in Riyadh, Saudi Arabia

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Abstract: This systematic review aims to investigate the prevalence and influence of exercise addiction among persons who frequently go to gyms in Riyadh, Saudi Arabia, with an interest in its implications on mental health. Exercise addiction is a growing concern associated with several adverse psychological results, such as anxiety, depression, and other psychological problems. The current study considers exercise addiction a public health concern in light of Riyadh's emerging interest in gyms and fitness culture. This study conducted a critical review of the prevalence rate and related literature about the mental health outcomes of the problem at issue among users of gyms. These results indicate a strong association of excessive exercise with adverse psychological effects and, importance of early intervention and prevention. This review contributes to the literature by underlining some of the social and cultural factors affecting exercise addiction in Saudi Arabia.

Keywords: Exercise Addiction, Mental Health Implications, Anxiety, Depression, Obsessive-Compulsive Behaviors, Perfectionism, Body Dysmorphia and Psychological Distress.

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I. INTRODUCTION

Exercise addiction is defined as a behavioral disorder expressing an obsessive interest in physical activity, impacting both physical and psychological health. The worldwide prevalence has been on the rise, especially in places where the concept of fitness culture is fast-paced, such as the Middle East, which encompasses Riyadh in Saudi Arabia [1,2]. Social and cultural features, such as body image ideals and social pressures toward maintaining a good physique, further exacerbate the propensity for exercise addiction. This disorder is associated with various mental disorders, such as anxiety, depression, obsessive-compulsive behavior, body dysmorphia, and eating disorders [3]. While there is a growing awareness that exercise addiction is indeed a public health issue, most research up until now has primarily targeted their physical consequences. Few studies have been conducted on the psychological impacts of exercise addiction among consistent exercise practitioners in Saudi Arabia [4,5]. Therefore, the present study attempts to fill this knowledge gap by examining the prevalence of exercise addiction among gym attendees in Riyadh and its mental health implications to contribute to the broader understanding of this problem in this local culture.

II. MATERIALS AND METHODS

This section presents the process of selecting the articles for this review and the nature of the research articles used. Articles were retrieved using different databases with specific keywords based on the selected inclusion and exclusion criteria. Data extraction was performed systematically in an organized format and included details of the findings relevant to mental health, including anxiety, depression, and eating disorders. The quality of the selected studies was ascertained using a checklist from the CASP.

➤ Eligibility Criteria

The criteria for inclusion were quantitative empirical studies, systematic reviews and meta-analyses, and peer-reviewed articles published in scholarly journals that report the prevalence and mental health consequences of exercise addiction among gym goers. The studies should also be published between 2019 and 2024 in English, and they should focus on mental health outcomes such as anxiety, depression, obsessive-compulsive behaviors, eating disorders, and psychological effects. This exclusion is comprised of studies not addressing physical health repercussions, articles written in a language other than English, and not within the scope of the target population/ outcomes of the focus group clients of gyms/exercise addicts.

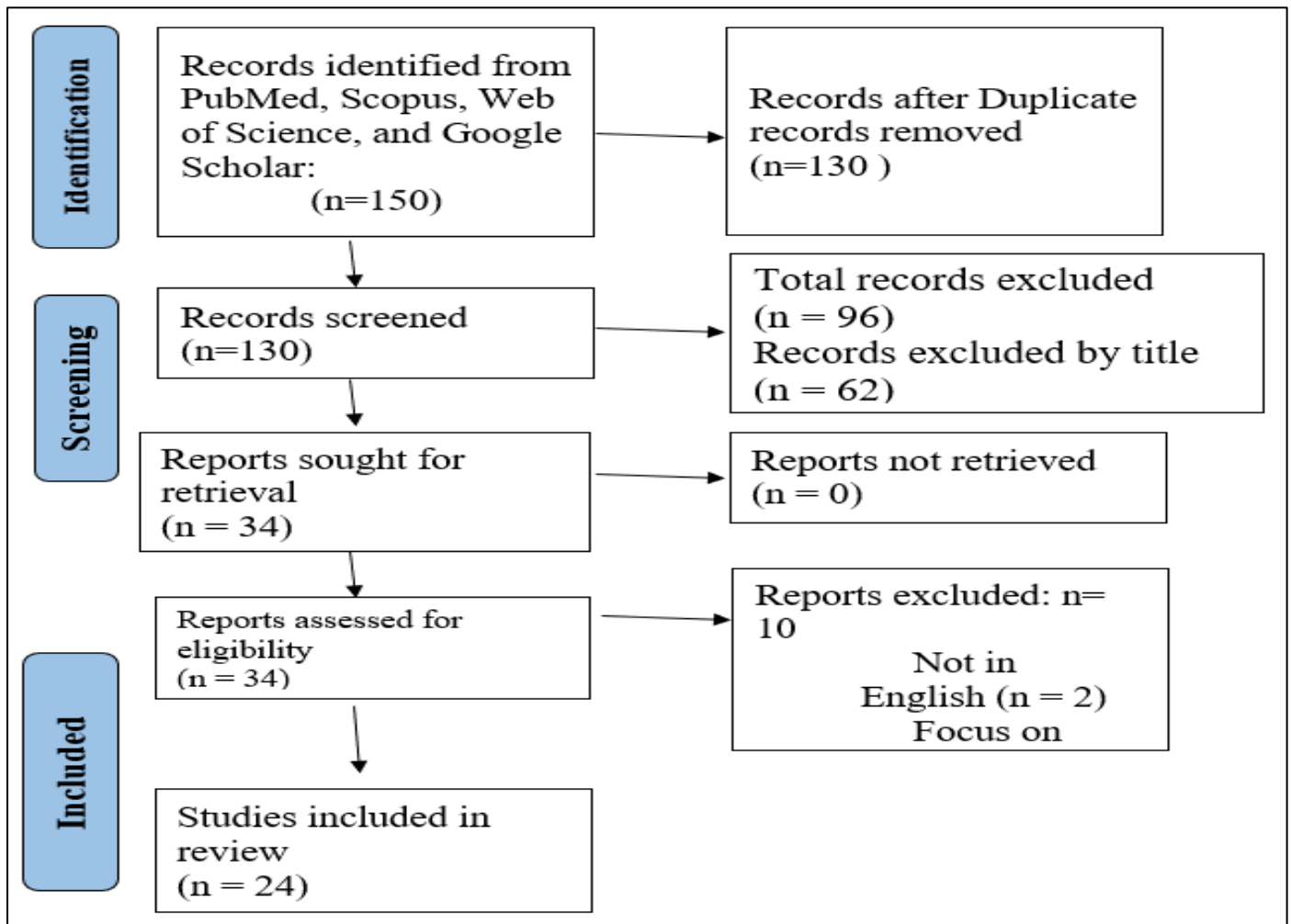


Fig 1 PRISMA Flow Diagram for Systematic Review on the Prevalence and Psychological Effects of Exercise Addiction among Gym Attendees in Riyadh

This figure presents the flow of information through the different phases of a systematic review. It includes the number of records identified, screened, assessed for eligibility, and included in the review, along with reasons for exclusions.

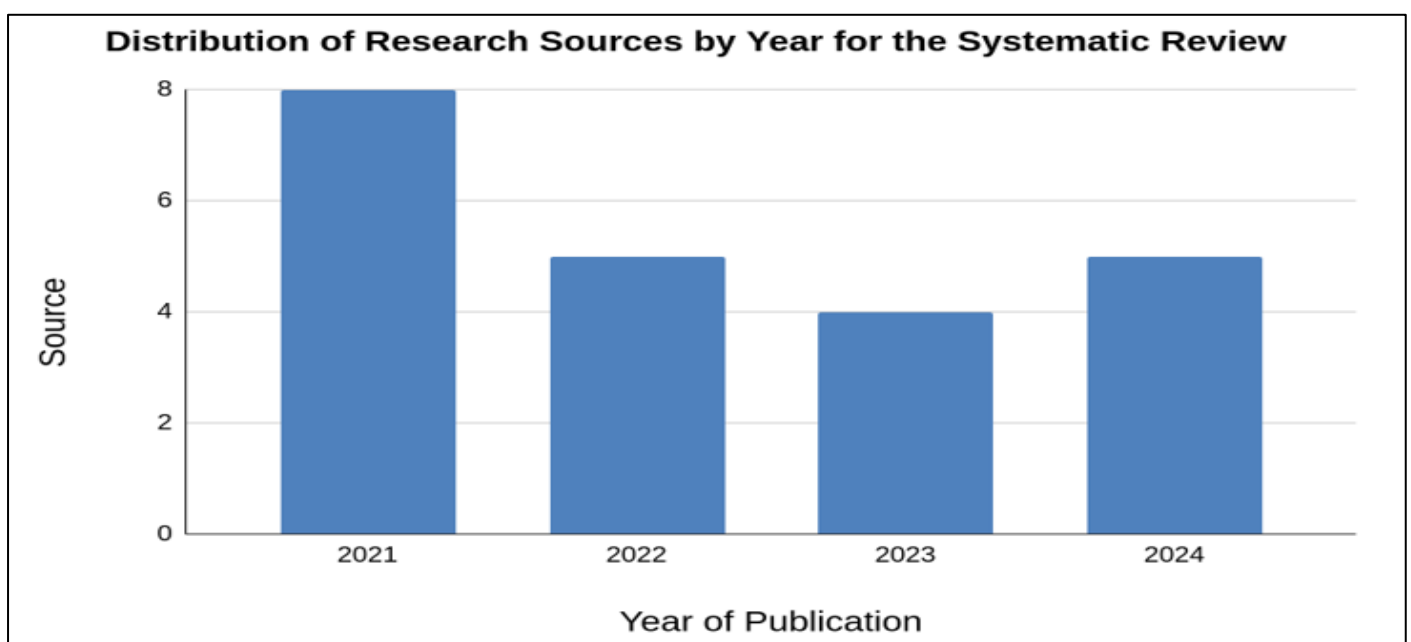


Fig 2 Distribution of Research Sources by Year for the Systematic Review

This figure illustrates the distribution of research sources over the years included in the systematic review on exercise addiction among gym attendees in Riyadh.

➤ Data Sources and Search Strategy

The sources used to identify data for this systematic review include PubMed, Scopus, Web of Science, and Google Scholar databases, which are reputable sources of academic work. The keywords and phrases used to form the basis of the search strategy include "exercise addiction," "mental health," "gym attendees," "Saudi Arabia," "prevalence," "anxiety," "depression," and "eating disorder." The use of Boolean operators was intended to refine the search. All citations from the searches were directly imported into reference management software to allow for the elimination of duplicates and efficient screening. This approach ensured rigor and depth in the identification of the studies that would relate to exercise addiction and its psychological impacts on gym users in Riyadh.

➤ Data Extraction Process

Data extraction was performed systematically using a pre-specified template to ensure selection consistency. Sample size, population characteristics, study design, measurement tools, and critical findings about mental health outcomes were data extracted on anxiety, depression, and eating disorders. Data extraction was done by structuring the retrieved information so that the identified characteristics are easily comparable and synthesizable. This approach captured all relevant aspects of the studies and analyzed the prevalence and effects of exercise addiction among gym attendees in Riyadh.

➤ Risk of Bias

The risk of bias was performed for the included studies to present appropriate and valid findings. Items checked in each study included appropriateness of the study design using the CASP checklist on the robustness of the methodology, clarity in reporting outcomes, and relevance to the research question. Further, the assessment was made regarding the study methods of the article, sample size, and possible conflict of interest. For this reason, the final synthesis included only articles with low and moderate bias risks, selecting 24 studies.

III. RESULTS

The systematic review shows that exercise addiction among users of gyms features an increased prevalence. Most of the reviewed studies described exercise addiction as excessive interest in physical activity and disregard for other critical aspects of life among users of gyms [2,6]. Besides, the reviewed studies revealed that adverse mental health consequences connected with exercise addiction are heightened anxiety, depression, and stress-related disorders. The study further established that individuals with higher perfectionism levels, social pressure, and pressures for a perfect body image are at a high risk of exercise addiction [6,7]. The studies also indicated that the respondents who manifested symptoms of exercise addiction had a high disposition toward psychological distress at a time when they were unable to perform their exercises and thus confirmed the fact that compulsive exercise habits could have implications on mental health.

Table 1 Key Themes and Findings from the Systematic Review on Exercise Addiction Among Gym Attendees in Riyadh

Theme	Key Findings	References
Prevalence of Exercise Addiction	Exercise addiction is highly prevalent among gym users in Riyadh, with many studies reporting increased rates of compulsive exercise behavior.	[4, 5]
Mental Health Consequences	Common psychological issues associated with exercise addiction include anxiety, depression, and stress-related disorders.	[4, 5, 6, 7, 8, 9, 10]
Perfectionism and Body Dysmorphia	Higher levels of perfectionism, social pressure, and body image concerns are significant risk factors for exercise addiction.	[11,12, 13, 14, 15]
Social and Cultural Influences	Social pressures, including societal and peer influences to maintain certain body ideals, exacerbate the risk of developing exercise addiction.	[16]
Psychological Distress	Individuals with exercise addiction experience higher psychological distress, particularly when unable to engage in exercise, leading to feelings of guilt, inadequacy, and distress.	[3, 17, 18, 19, 20]
Potential for Overtraining Syndrome	Exercise addiction can result in overtraining syndrome, causing chronic fatigue, irritability, sleep disturbances, and other physical and psychological health issues.	[8, 21, 22]

This table summarizes the key themes and findings from the systematic review, including prevalence rates, mental health consequences, and social and cultural influences related to exercise addiction.

IV. DISCUSSION

➤ Interpretation of Findings

The prevalence of exercise addiction among regular users of gyms in Riyadh has been a concern, given that people started showing symptoms characterizing addictive trends

toward compulsive exercises. Several studies carried out in Saudi Arabia among members of the gym proved that a significant percentage of its respondents report mental health problems and exercise-related injuries that are potential signs of exercise addiction [4, 5, 6, 7, 8, 9, 10]. Social pressures, body ideals, and lack of awareness about healthy exercise may position residents of Riyadh at risk for developing exercise addiction [16]. Besides this fact, addictive components of compulsive exercises usually overlap with perfectionism and anxiety - factors that create worsening in mental health [11,12, 13, 14, 15]. Given that exercise

addiction has differing effects on mental conditions, including increased anxiety, depression, and obsessive-compulsive behavior, the results of this study will put the topic within the field of interest of those who regularly frequent the gym.

➤ *Implications for Mental Health*

Excessive exercise is a disorder characterized by high levels of anxiety, depression, and obsessive-compulsive behaviors, wherein individuals often feel guilt, low self-esteem, and distress if they fail to meet their exercise targets. This dissatisfaction creates a self-reinforcing vicious circle where the psychological compulsion to exercise intensifies, leading to overtraining syndrome with symptoms such as chronic fatigue, irritability, and sleep disturbances [8, 21, 22]. Moreover, exercise addiction is closely associated with perfectionism and body dysmorphia, resulting in severe mental health consequences through the obsessive pursuit of unattainable body ideals [11, 12, 13, 14, 15]. The situation is further exacerbated when social environments vigorously promote physical exercise, which can lead to feelings of loneliness and depression due to the compulsive nature of exercise addiction. These findings underscore the urgent need to recognize exercise addiction as a significant mental health issue that requires targeted interventions. Mental health and prevention strategies should be integrated into gym culture to address this concern effectively. Collaboration between gym trainers and mental health professionals is crucial for the early identification and management of exercise addiction symptoms. By providing education, psychological support, and tailored interventions, gym environments can become safer and more supportive spaces for individuals at risk of exercise addiction.

V. LIMITATIONS OF THE STUDY AND FUTURE STUDIES

This study had several limitations that must be considered when interpreting its results. The first limitation is that it is a systematic review rather than a study involving data collection. Therefore, deriving specific conclusions about the prevalence and consequences of exercise addiction among gym users in Riyadh is constrained. Moreover, the reviewed articles had varied designs, populations, and methods, which may introduce inconsistencies and biases in the reported findings. Another significant limitation is the reliance on self-reported data in most of the studies to assess exercise addiction and its mental health consequences. Self-report questionnaires are prone to recall bias, where participants may not accurately remember past behaviors, and social desirability bias, where participants may underreport or overreport behaviors to align with perceived social norms. As a result, symptoms and their prevalence might be misrepresented. Future research should employ more objective measures, such as clinical interviews or observational studies, to assess exercise addiction and its psychological impact more accurately. Additionally, further research should explore the psychological factors such as motivation, coping strategies, and support systems that may moderate exercise addiction and develop effective intervention strategies.

VI. CONCLUSION

Exercise addiction is a behavioral disorder that originates from an uncontrollable compulsion towards physical activity; such activities may result in adverse psychological consequences of anxiety, depression, and obsessive-compulsive behaviors. This review found high exercise addiction among the gym subscribers of Riyadh, significantly influenced by social and cultural pressures. People with perfectionistic traits and body dysmorphic disorders stand at a higher risk of developing the problem. Indeed, these facts provide a clue to the urgent need to treat exercise addiction like any other public health disorder. An effective intervention will require mental health professionals, gym trainers, and policymakers to collaborate and coordinate in strategizing and creating interventions that foster healthy exercise behaviors with psychological support. Such integration of psychological interventions within the gyms should facilitate early detection and attempts at prevention. Further research is required into the motivational and coping factors underlying addiction using more objective measures to reduce biased reporting of psychological factors. Considering these factors is crucial in developing culturally adapted interventions that improve the mental health and well-being of people exercising in gyms, bringing about a healthier fitness culture in Riyadh.

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