

Systematic Review

Community-Based Preventive Interventions for Depression and Anxiety in Women

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Abstract

Background: Depression and anxiety are the most common mental disorders and currently, they constitute one of the main causes of disability and death. The high prevalence of psychiatric disorders and their increasing burden are noteworthy. The aim of this study is to investigate the effectiveness of community-based preventive interventions for depression and anxiety in women.

Methods: We systematically searched for articles published up to the beginning of 2018, which addressed community-based preventive interventions for depression and anxiety in women. The studies were searched in PubMed, Scopus, Cochrane Library, Web of Science, PsycInfo, IranMedex, SID and EMBASE electronic databases. Articles that complied with our inclusion criteria (preventive interventions involving healthy adult women aged 18 to 65 years) were reviewed. Quality assessment of the articles was performed using standard tools. We extracted the required data and reported the results in a narrative form.

Results: Twenty-three articles were identified and entered into the final review. Depression and anxiety symptoms were decreased in more than 70% of interventions. Cognitive behavioral therapy (CBT) and exercise were the most effective interventions. In addition, computer and internet-based programs had positive outcomes in both categories of depression and anxiety.

Conclusion: Community-based preventive programs for depression and anxiety in women had promising and positive results. CBT and exercise were the most effortless, yet the most effective interventions to apply. Computer and internet-based programs had the benefit of covering many people simultaneously. These interventions are cost-effective and feasible among Iranian women.

Keywords: Community, Depression, Prevention, Women

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Introduction

Mental health includes proper social behavior, freedom from worry and guilt, absence of psychiatric illness, personal accomplishment, self-control, self-acceptance and self-actualization, faith and organized character, open mindedness and flexibility.¹

Anxiety and depression have always distressed humans and adversely affected their physical, mental, emotional, spiritual and social aspects. In addition to their direct physical and mental discomfort, they lead indirectly to a large extent of social and economic problems.²

Psychiatric disorders have high prevalence and impose significant burden. About 919 million people suffer from psychiatric disorders worldwide. According to an assessment by the World Health Organization, one out of every four individuals in the world will suffer from one of the psychiatric disorders in life. At any time, about 19% of the adult population suffer from mental disorders.³ Furthermore, statistics show that 1 out of every 5 women vs. 1 out of every 10 men will experience this illness

throughout life.⁴

Researchers suggest that a wide range of the female population (20% to 60%) suffer from depression and stress. The biological structure and physiology of the female body (such as hormonal changes and childbirth) render her more vulnerable to anxiety and stress in comparison with men. However, the intensity and mechanism of such disorders in women is related to both psychological and environmental issues.⁵

Community-based health programs are a major field of study within the medical and clinical sciences that focus on the maintenance, protection, prevention and improvement of the health status of population groups and communities as opposed to the health of individual patients. These programs are often comprised of a combination of strategies to develop policy changes.⁶

Various but scattered studies have been conducted on the methods of depression and anxiety prevention all over the world.

Although there is enough evidence for therapeutic

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interventions for patients with anxiety and depression, few studies are available on the effectiveness of prevention programs for anxiety and depression among healthy populations.⁷

The objective of this study is firstly determining the most effective intervention strategies for prevention of depression and anxiety in women and secondly, providing updated insight about the effectiveness of community-based prevention programs.

Material and Methods

This review was performed following the PRISMA guidelines for reporting systematic reviews.⁸ A systematic search of MEDLINE and Web of Science databases was conducted. A comprehensive systematic search was performed to identify relevant studies published up to January 2018 (we updated our initial search due to the study period and possibility of missing newer studies). The studies were searched in PubMed, Scopus, Cochrane Library, Web of Science, PsycInfo, IranMedex, SID and EMBASE electronic databases. The searching activity was limited to English language articles. The databases were searched using relevant keywords that combined with 'AND' and 'OR' operators. The search strategy in the databases was: "Community health planning" OR "community health services" OR "community medicine" OR "social planning" OR "community-based participatory research" OR "community trial OR population based" OR "community" OR "community program" OR "community-based" OR "program" OR "programme" AND "prevent*" AND "depress*" AND "anxiety".

Eligibility Criteria

Inclusion criteria: Preventive interventional studies (randomized controlled trials, non-randomized trials with controlled group, before-after studies and community-based interventional studies), with the target group of women above 15 and below 65 years of age, without any positive past medical history, studies published in English language and no restrictions on place and time.

Exclusion criteria: treatment intervention studies, studies with target groups other than healthy women (i.e. men, children, the elderly and people with positive past medical history), intervention in special groups of women (such as prisoners, those living in shelters, etc).

Quality Assessment

The quality of included studies was assessed with a standardized quality assessment tool, the Effective Public Health Practice Project Quality Assessment Tool for Quantitative Studies 2003, which has been developed to evaluate both randomized and nonrandomized studies.^{9,10} The quality of each included study was assessed by one reviewer (FM) and checked by a second reviewer (MN). In case of disagreement, consensus on ratings was reached

through discussion.

Extracting Data

The characteristics of articles (e.g. authors, year of publication, country of study, place of intervention, type of intervention, main result, assessment tools and duration of study) were extracted by one reviewer (FM) and reviewed by another reviewer (MN).

Results

The search yielded 11990 results once duplicates were removed. Afterwards, the titles were assessed for relevance to inclusion criteria by one of the authors, which resulted in exclusion of 4998 articles. The remaining articles were first assessed by their abstracts and then reviewed in full text, which resulted in exclusion of 2492 and 4998 articles, respectively (Figure 1).

Study Characteristics

Overall, 23 studies were eligible to enter the final review (Table 1).

Two studies had specifically studied the "anxiety" subject, whereas 12 studies exclusively focused on the subject of "depression" and 9 others had examined "depression and anxiety" jointly.

All the included studies had measured the desired indicators after completion of the program. More than half of the studies (18 out of 23 studies) had examined the results in the follow-up period after completion of the program. Four studies had evaluated the long-term effectiveness of intervention during a period of more than one year after completion of the program.

The duration of the programs varied from 3 weeks to 6 years.

The quality of the studies was classified as strong, average or weak. A total of 12, 10 and 1 studies were of strong, average and weak quality, respectively. All the studies were included in the final consideration phase.

Type of Intervention

Cognitive-behavioral intervention, exercise intervention, life skills training, motivational interviewing, curriculum knowledge, diet and family support services were discussed in 10, 5, 3, 2, 1, 1 and 1 studies, respectively. One study addressed diet, one dealt with family and child support services and the last one discussed the effect of increasing information and knowledge as intervention.

Type of Settings

Workplace, university, school, primary health center, public community and Relief organization were the research settings in 5, 7, 5, 2, 3 and 1 studies (out of total 23 studies), respectively.

Six out of 23 total studies were based on computer and internet. Two studies had only focused on the subject of

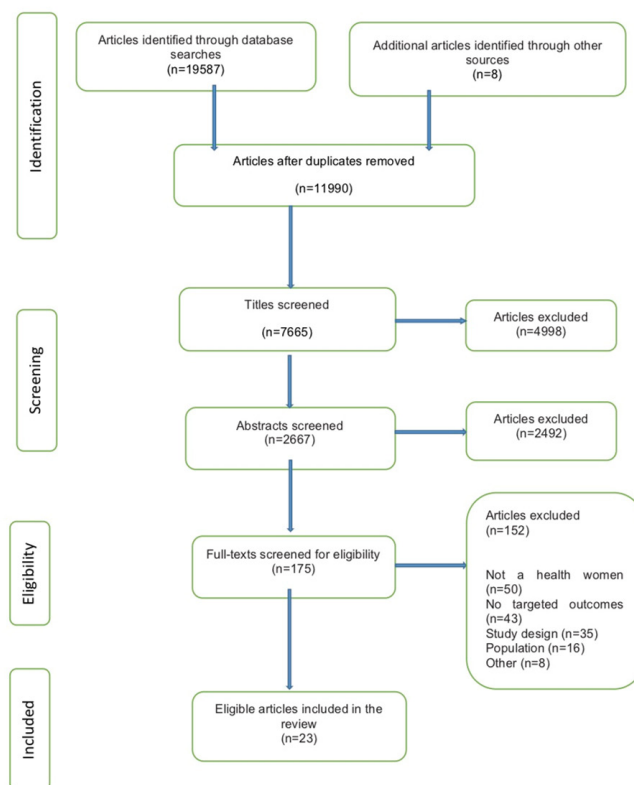


Figure 1. Flow Chart for Study Selection.

anxiety.^{11,12} The interventions were based on computer and internet. In both studies, the intervention group showed a significant reduction in their anxiety level compared to the control group.

Studies that focused on the subject of depression:

One study consisted of three intervention groups; the questionnaire score decreased in all the intervention groups.¹³

A Dutch study evaluated the effects of an exercise program on the employees' subclinical depression. Analysis of results after the intervention showed a significant reduction in the number of people with depression and the intensity of depression symptoms in the intervention group compared to the control group.¹⁴

To compare the effect of aerobic exercise with relaxation training in reducing the adverse consequences of stress on mental health (based on Beck questionnaire), two intervention groups were compared with one control group. The aerobic exercise intervention group showed a significant reduction of BDI scores.¹⁵

A prospective study with 566 patients with a mean age of 50 years included 90% women who were employed from 43 organizations.¹⁶ The odds ratio (OR) of depression in the intervention group was lower than the comparison group and the base OR.

In another study that aimed to prevent depression in 96 women living in rural areas of Australia, a total of 97% of participants in both intervention groups reported reduction of depression symptoms.¹⁷

A prospective study conducted on 115 women with children under one year of age in Australia, Day Stay Program, demonstrated significant differences between the baseline scores of the behavioral questionnaire compared to the scores after intervention in both mothers and children.¹⁸

One of the studies was conducted based on the knowledge of the symptoms and the cases who needed depression intervention among healthy subjects.¹⁹ Knowledge of symptoms, diagnosis and need for treatment of depression improved from 19% to 80% according to the Adolescent Depression Knowledge Questionnaire (ADKQ).

Another study (CATCH-IT project) applied internet-based interventions at the level of Primary Care Centers (PCPs), which was conducted in several phases and was attended by 83 participants.²⁰ This study compared motivational interviewing with brief consultation. While both interventions showed a significant decrease in symptoms of depression and negative thoughts, motivational interviewing was more effective in reducing depression symptoms as opposed to brief consultation intervention.

Other studies focused simultaneously on both depression and anxiety disorders. The characteristics of the 23 articles included in this review are summarized in the Table 1.

Discussion

In this study, the most common way to prevent depression and anxiety disorders was cognitive behavioral intervention

Table 1. Characteristics of the 23 Articles Included in the Review

First Author, Year, Country	Study Design/ Description	Sample Demographics / Setting	Outcome Measures	Outcomes of Research	Analytic Details	Quality Assessment
Kenardy J., 2003, Australia ¹¹	RCT: To evaluate the efficacy of an internet-based cognitive behavioral preventive intervention for individuals at risk of developing anxiety. Instructor: automated/computer based; Duration: 6 computer 'sessions' (5-7 days). Follow-up points: 6 wk, I=36, C=38	- 74 participants (68% female) - Age: 17-51 y - University students	ASI, ACQ, BSQ, CCQ,	Compared to controls, intervention participants showed a significant reduction in ACQ and CCQ scores at both posttest. Significant treatment effects were found for anxiety related cognitions and symptoms of depression, and a non-significant trend for anxiety sensitivity.	ACQ = 0.25, BSQ = 0.29, CCQ = 0.38	Strong
Schmidt N, 2007, USA ¹²	RCT: To evaluate a longitudinal prevention program targeting anxiety sensitivity. Anxiety Sensitivity Amelioration Training: a presentation on the nature and effects of stress, and descriptions of behavioural exercises vs. attention placebo controls; 30 min computer presentation and 10 min questions. Follow-up: 12 and 24 mon, I=189, C=215	- 404 participants (61% female) - Age: 19-23y - University/ College	BDI, ASI	Findings indicate that ASAT produced greater reductions in ASI levels compared with the control condition. Moreover, reductions were specific to anxiety sensitivity relative to related cognitive risk factors for anxiety.	Effect size for BDI: 12 m FU = 0.15, 24 m FU = 0.12	Moderate
Rohde P, 2012, USA ¹³	RCT: To identify subgroups of adolescents with elevated depressive symptoms who had the highest likelihood of developing future depressive disorder on the basis of depression risk factors and participation in three depression prevention programs, with the goal of evaluating the preventive effect of indicated prevention interventions in the context of known risk factors: group CB (n=89), supportive-expressive (n=88), CB bibliotherapy (n=80), brochure control (n=84).	- 341 students (56% female) - Age: 14-19 y - School-based	CESD, DSM-IV	In one of 3 depression prevention interventions, each of which was previously shown to significantly reduce depressive symptoms or onset of depressive disorder to varying degrees.	Group CB and bibliotherapy: significantly lower risk for onset of depressive episodes than brochure controls. (P = 0.033; OR = 2.23; 95% CI = 1.07-4.67) (P = .004; OR=8.13; 95% CI=1.89-34.96)	Strong
De Zeeuw EL, 2010, Netherlands ¹⁴	RCT: To evaluate an exercise program for employees' subclinical depression (30 white-collar employees). PHQ-9 was randomly assigned to a 10-week in-company fitness program with two supervised training sessions per week or to a control group. I=15, C=15	-30 participants (40% female) -Age: 41.3 (6.5) -Insurance company	PHQ-9	Participation in the exercise program resulted in a larger average decrease in depression scores compared to the control group that approached significance. More importantly, 86% of the exercise group no longer experienced minimal symptoms of depression, compared to 31% of the participants in the control group.	Effect size (SE) = -0.90 (0.40)	Strong
Roh D, 1987, USA ¹⁵	RCT: To evaluate whether aerobic exercise training or relaxation training can be effective in reducing the negative effects of life stress on physical and psychological health 30 min sessions, 3 per week for 11 weeks. I = 18, C = 19	-37 students (51% female) -Age: 18.9 (1.3) -University/ College	STAI, BDI	Compared to both controls and participants in the relaxation condition, participants in the exercise condition showed a significant reduction in BDI scores at the mid-point of the intervention.	Effect size for BDI: Exercise (Mid-point = 0.47; Post = 0.20), Relaxation (Mid-point = 0.02, Post = -0.08)	Moderate
Ahola K, 2012, Finland ¹⁶	RCT: To investigate whether participation in a structured resource-enhancing group intervention at work would act as primary prevention against depression. The intervention was delivered by two trainers, one from occupational health services and one from human resources, strictly according to the structured program. I = 296, C = 270	- 566 participants (75% female) -Age: 50 (6.5) -A total of 43 medium-sized and large-sized organizations	Beck (BDI)	The resource-enhancing group intervention appeared to be successful as universal and selective prevention of potential depression.	Odds of depression: OR = 0.40 (95% CI 0.19 to 0.85)	Strong

Table 1. Continued

First Author, Year, Country	Study Design/ Description	Sample Demographics / Setting	Outcome Measures	Outcomes of Research	Analytic Details	Quality Assessment
Day C, 2003, Australia ¹⁷	RCT: Preventing depressive symptoms in women living in rural communities were evaluated against a no-intervention control condition. The standard intervention was based upon traditional cognitive-behavior treatments for depression; the experimental intervention was based upon prevention strategies derived from the learned helplessness model of depression, 76 women were randomly assigned to either the standard (CBT) or the experimental group (workshop). I: SI = 38, Ex = 38 C: 20	- 96 women - Age: 41.1 (11.1) - Five Rural Towns	SDS, ASQ	Ninety-seven percent of the participants reported 6-month follow-up scores lower than their pre-test scores, and a smaller proportion of participants reported severe levels of symptoms at the 6-month follow-up (2.6%) than at pre-test (36.8%).	SDS: F = 11.84, P<0.001	Moderate
Rowe H, 2012, Australia ¹⁸	A prospective cohort: To examine the health, social circumstances and presenting needs of clients attending the Tweedle Day Stay Program (DSP) with infants under 12 months to assess the parent mental health and infant behavior outcomes and the factors associated with program success. A prospective longitudinal cohort, or single group pre-and post-test design. Participants were assessed twice: once prior to admission to the DSP and once 4–8 weeks after discharge from the program.	- 115 Mothers - Age: 32.3(4.9) - TCFHS parenting center	EPDS, Kessler 6, BBS, GSRH	Participants' mental health and their infants' behaviors were significantly improved after DSP admission. In multivariate analysis, higher depression scores at baseline and greater educational attainment were significantly associated with improvements in parents' mental health. Worse unsettled infant behaviors and longer time between discharge and follow up were significantly associated with improvement in infant sleep and settling.	EPDS = -0.59, P<0.001; BBS= -0.39, P<0.001	Moderate
Swartz KL, 2010, USA ¹⁹	A single group pre-and post-test design: To assess the effectiveness of the ADAP curriculum in improving high school students' knowledge about depression. From 2001 to 2005, were surveyed on their knowledge about depression before and after exposure to the ADAP curriculum.	-3538 students -Age: 15-24 y - School-based	ADKQ	The number of students scoring 80% or higher on the assessment tool more than tripled from pretest to posttest (701 to 2,180).	Pretest ADKQ score =12.96, Posttest ADKQ score = 15.76, P<0.001	Moderate
Saulsberry A, 2012, USA ²⁰	RCT: A primary care/internet-based intervention for adolescents at risk for depression (CATCH-IT). This phase II clinical trial compared two forms of PCP engagement (MI and BA) for adolescents using the internet program, PCP MI + internet program or PCP BA + internet program. BA=40, MI=43	-83 participants (57% female) -Age: 17.26 (1.85) - Five major healthcare organizations (PCP)	CESD-10, PHQ-A	Both groups demonstrated significant within-group decreases in depressed mood, loneliness, and self-harm ideation. Fewer participants in the MI group had experienced a depressive episode. Greater participant automatic negative thoughts and more favorable ratings of a component of the Internet-based training experience predicted declines depressed mood.	ES = 0.96, (95% CI: 0.63, 1.17)	Moderate
Agarwal U, 2015, USA ²¹	RCT: A quasi-experimental study examined the impact of diet on emotional well-being and productivity. Either weekly instruction in following a vegan diet or no instruction was given for 18 weeks. I = 142, C = 150	- 292 participants (80% female) -Age: >18 y -In 10 major U.S. insurance companies	SF-36	Improvements in depression and anxiety are consistent with previous findings that, while limited, suggest that vegetarian and vegan diets may improve mood.	SF-36: Within-Group Difference Depression:4.80 (15.04), P<0.001; Anxiety: 5.22 (15.87), P<0.001	Strong
Calear AL, 2009, Australia ²²	RCT: To investigate the effectiveness of an online, self-directed cognitive-behavioral therapy program (MoodGYM) in preventing and reducing the symptoms of anxiety and depression in an adolescent school-based population (with 30 schools). I = 563, C = 914	-1477 students (63% female) - Age: 12–17 y - school-based	RCMAS, CES-D	At post intervention and 6-month follow-up, participants in the intervention had significantly lower levels of anxiety than did participants in the control condition (Cohen's d = 0.15–0.25).	RCMAS: F =12.94, P<0.001 (sig); CES-D: F = 2.15, P = 0.12 (no sig: female)	Strong

Table 1. Continued

First Author, Year, Country	Study Design/ Description	Sample Demographics / Setting	Outcome Measures	Outcomes of Research	Analytic Details	Quality Assessment
Andersson G, 2005, Sweden ²³	RCT: To investigate the effect of an internet-administered self-help program including participation in a monitored, web-based discussion group, compared with participation in web-based discussion group only (to compare the effects of internet-based cognitive-behavior therapy with minimal therapist contact). I = 57, C = 60	- 117 participants (75% female) - Age: 36.3 (11.5) - Universal (newspapers)	MADRS-S, BDI, BAI	Internet-based therapy with minimal therapist contact, combined with activity in a discussion group, resulted in greater reductions of depressive symptoms compared with activity in a discussion group only. At 6 months' follow-up, improvement was maintained to a large extent.	MADRS-S: F = 7.77, (P = 0.007); BDI: F = 14.22 (P < 0.001); BAI: F = 5.27 (P = 0.019)	Moderate
Noel LT, 2013, USA ²⁴	Pre-and post-test design: Discusses the use of a participatory action research model to develop and inform a culturally adapted intervention to reduce depressive symptoms and prevent the onset of major depression among middle school girls. A mixed-methods design that included a pretest-posttest to measure changes in CB (TALKnTIME) and youth development knowledge (with Facilitator Training).	- 11 School (Female) - Age: 13-15 y - School-based	CESD	The pre- and posttest survey findings indicated a statistically significant improvement in the peer facilitators' CB and youth development knowledge after completing the TALKnTIME training.	The mean score of peer facilitators: pretest = 10.22 (2.33), as 12 (1.73) the posttest. CB and youth development knowledge I(8) = -2.78, P < 0.05 (significant)	Moderate
Van Voorhees B, 2008, USA ²⁵	RCT: To determine which primary care approach is more efficacious in reducing vulnerability of major depressive disorder as measured by pre/post changes in vulnerability factors: A randomized controlled trial comparing BA + internet program versus MI + internet program (52 weeks). (MI = 44; BA = 40)	- 84 participants (57% female) - Age: 14-21 y - Primary Care center	CESD, PHQ-A	The percentage of those reporting symptoms of panic disorder and generalized anxiety symptoms declined significantly in the BA group but not in the MI group. Depressed mood declined significantly in both groups.	MI: effect size = -0.44; BA: effect size = -0.56	Strong
Brent, DA, 2015, USA ²⁶	RCT: To determine whether a CBP program reduced the incidence of depressive episodes, increased depression-free days, and improved developmental competence 6 years after implementation. The CBP program consisted of 8 weekly 90-minute group sessions followed by 6 monthly continuation sessions. Usual care consisted of any family-initiated mental health treatment. I = 159, C = 157	- 316 participants - Age: 18-25y - At a health maintenance organization, university medical centers, and a community mental health	DFDs	The effect of CBP on new onsets of depression was strongest early and was maintained throughout the follow-up period; developmental competence was positively affected 6 years later. The effectiveness of CBP may be enhanced by additional booster sessions and concomitant treatment of parental depression.	HR = 0.71 (95% CI: 0.53-0.96)	Strong
Steinberg D, 2014, USA ²⁷	RCT: To evaluate the effect of a weight gain prevention intervention (Shape Program) on depression among socioeconomically disadvantaged overweight and obese women, analyzed change in depression score from baseline to 12- and 18-month follow-up across groups with mixed models. I = 91, C = 94	- 185 woman - Age: 35.4 (5.5) - Five community health centers	PHQ-8	Significant reduction in the proportion of intervention participants with depression at 12 months with usual-care group (11% vs. 19%; P = 0.035). The Shape Program, improved depression among socioeconomically disadvantaged Black women.	Mean difference: -1.85 (95% CI: -3.08, -0.61; P = 0.004)	Strong
Manz R, 2001, Germany ²⁸	A Quasi-experimental intervention: The development and application of a program for the primary prevention of anxiety and depression in adolescents. The treatment targets anxious and depressive symptoms, cognitive distortions and attribution styles as well as social skills (the prevention program "GO!" includes the modification of dysfunctional thinking and attribution styles). I = 325, C = 302	- 627 students (59% female) - Age: 15-18 y - Four high school	BDI, BAI	First results on the efficacy of the prevention treatment are reported. Small but positive effects on cognitive and social risk factors found over a 6-month period. The effects of the prevention program depend on the fidelity of the treatment implementation.	Psychological knowledge before and after the prevention program GO! (F = 111.1, P = 0.000) BDI, BAI: No sig	Moderate
Seligman M, 2007, USA ²⁹	RCT: To evaluate the efficacy of a brief classroom-based cognitive behavioral workshop in preventing depression and anxiety amongst individuals at risk for depression, 2 h per week for 8 weeks and an individual session with group leader early on in workshop (plus 6 emails from trainers, web-based material always available, and a face-to-face booster. I = 102, C = 125	- 227 participants (65% female) - Age: 17-20y - University/ College	BDI, BAI	Compared to controls, the participants in the intervention group showed a significant reduction in BAI and BDI scores at posttest (and 6 m follow-up).	Effect size for BDI: Post = 0.65; BAI: Post = 0.34	Strong

Table 1. Continued

First Author, Year, Country	Study Design/ Description	Sample Demographics / Setting	Outcome Measures	Outcomes of Research	Analytic Details	Quality Assessment
Braithwaite SR, 2007, USA ³⁰	RCT: To examine the efficacy of a computer-based Prevention and Relationship Enhancement Program (ePREP) relative to a depression and anxiety focused computer-based preventive intervention (Cognitive Behavioral Analysis System of Psychotherapy: CBASP) and a control group. I and C: not stated.	- 91 participants (59% female) - Age: 18-28y - University/ College	BDI, BAI	Compared to controls, participants in both the ePREP and CBASP interventions had significantly reduced symptoms of depression and anxiety. There were no significant differences on either of these measures between the two intervention groups.	Insufficient information to calculate for BDI and BAI.	Weak
Cukrowicz K, 2007, USA ³¹	RCT: To evaluate the efficacy of a computer-based preventive intervention for depression and anxiety symptoms, based on the Cognitive Behavioral Analysis System of Psychotherapy vs. attention placebo controls. 1x2h computer session, plus 8 weekly emails (reminding of content). I=81, C=71	-152 participants (73% female) -Age: 18-21y -University/ College	BDI, BAI	Compared to controls, intervention participants reported significantly symptom ratings of depression and anxiety at baseline.	Effect size: for BDI = 0.50, for BAI = 0.57	Strong
Kim, Kwuy 2004, South Korea ³²	RCT: To evaluate the effects of meridian exercise on the anxiety, depression, and self-esteem of students: 30 min, 2 per week for 6 weeks. I=26, C=28	- 54 female students - Age: 19-24y - University/ College	STAI-S, DSI, SEI	The effects of exercise on anxiety, depression, and self-esteem were statistically significant (t = -7.982, t = -8.814, t = 9.649; P = .000) between the experimental and control group.	Insufficient information to calculate for DSI.	Moderate
Habibi M, 2013, Iran ³³	RCT: Effectiveness of cognitive-behavioral management of stress on reducing anxiety, stress, and depression in head-families women. With a pre-test and post-test control group design, the subjects in the intervention group underwent 10 sessions of cognitive-behavioral stress management training, but the control group did not. 90 min, 3 per week for 10 sessions. I=20, C=20	- 40 head-families women - Age: not stated - Community based	DASS	Cognitive-behavioral stress management training, significantly decreased depression, anxiety, and stress scores in the experimental group. The cognitive behavioral stress management training could be an intervention program in target groups and general population.	Effect size for: DASS (depression) = 0.81; DASS (anxiety) = 0.44	Strong

I, intervention; St, standard group; Ex, experimental group; C, control; RCT, randomized control trial; CB, cognitive-behavioral; CBT, cognitive-behavioral prevention; BA, brief advice; MI, motivational interview; SF-36, Short Form (36-item health survey); Beck (BDI), Beck Depression Inventory (21-question self-report inventory for depression); RCMAS, Revised Children's Manifest Anxiety Scale; CES-D, Center for Epidemiologic Studies-Depression Scale; ASQ, Anxiety Symptoms Questionnaire; SDS, The Zung Self-Rating Depression Scale; EPDS, Edinburgh Postnatal Depression Scale; Kessler 6, 6-item self-rating scale for mental illness; BBS, Baby Behavior Scale; GSRH, General Self-Reported Health; MADRS-S, Montgomery-Asberg Depression Rating Scale-Self rated; BDI, Beck Depression Inventory; BAI, Beck Anxiety Inventory; ADKQ, The Adolescent Depression Knowledge Questionnaire; CESD-10, Center for Epidemiologic Studies Depression Scale-10 item; PHQ-9, Patient Health Questionnaire (9-question depression scale in adults); PHQ-A, Patient Health Questionnaire (8-question depression scale for adolescents); PHQ-8, Patient Health Questionnaire (8-question depression scale in general population); DFDs, depression-free days; CESD, Center for Epidemiologic Studies Depression Scale; DSM-IV, The Diagnostic and Statistical Manual of Mental Disorders-4th Edition; ASI, Anxiety Sensitivity Index; ACQ, Agoraphobic Cognitions Questionnaire; BSCQ, Body Sensations Questionnaire-Modified; STAI-S, The State-Trait Anxiety Inventory-State (event related); DSI, Depression Screening Instrument; SEI, Self-Esteem Index; STAI, The State-Trait Anxiety Inventory; DASS, Depression and Anxiety Stress Scale; CATCH-IT, competent adulthood transition with cognitive-behavioral, humanistic and interpersonal training; OR, odds ratio; F, factor; ES, effect size; CI, confidence interval; SE, standard error; HR, hazard ratio; FU, follow up; TCFHS, tweddle child & family health service; PCP, primary care provider.

(CBI), an approach that has always had positive results. The cognitive behavioral therapy (CBT) or CBI has been implemented in person in a number of studies or as online training classes and computer-based in some other studies. The fact that CBT had a significant positive impact in all cases demonstrates that this intervention can be applied effectively as both in-person and remote therapy.

Computer-based programs (e.g. Mood GYM program) are highly efficient and useful for both depression and anxiety. If technology-based programs (computer) are implemented, the stigma associated with the disease almost disappears and the follow-up and counseling sessions will be followed more regularly. Such facilities are cost-effective for implementation of larger scale programs.³⁴

“Community-based Services” play an important role in prevention and should be part of the current mental health services. Guided measures in people with mild symptoms lead to decreased burden of depression and anxiety.^{35,36}

According to the World Health Organization, interventions applied for prevention of mental disorders are divided into three approach categories: “Universal”, “Selective” and “Indicated”. Universal approaches are the ones that are implemented on the public.³⁷ School-based interventions and public interventions to increase social skills are among the universal approaches.

Selective approaches are the ones that are implemented in a subgroup of patients with high risk of depression and anxiety.³⁸ Indicated approaches include the ones that are implemented in individuals who have prodromal symptoms of depression and anxiety but their illness has not stabilized yet.

With regard to interventions for depression, the universal and indicated programs had a higher rate of ultimate success in comparison with selective programs.

Considering depression and anxiety simultaneously, universal and selective preventive programs have been more efficient and effective. However, the contents of programs within these two approaches were different. Therefore, it is somehow difficult to reach firm conclusions.

Most interventions were applied in schools and universities, which could be due to easier access to the study population and lower risk of attrition. The prevalence of mental disorders in this specific age group should be considered in order to prevent bias in intervention.³⁴

About 21% of the studies included exercise interventions. Obviously, sports have many psychological benefits including decreasing symptoms of anxiety and depression, coping with stress, increasing self-esteem, improving mood and promoting mental health.^{39,40}

One of the important functions of the media is “anticipatory socialization”. In the past, the process of socialization of individuals was accomplished through family, school, peers and reference environments. Nowadays, from birth to adulthood, the media gradually and continuously transfer the values and norms of

contemporary societies to members of the community.⁴¹ Increasing awareness regarding mental health and adverse consequences of mental disorders through the media can help people obtain the necessary information and skills to prevent these disorders and promote their mental health. Ultimately, this will lead to mental health promotion in the whole society as well as de-stigmatization of mental illness. Therefore, these issues should be one of the priorities in the media.

In an online survey conducted in Canada, five protective factors including social support, physical activity, education and learning, self-esteem and life skills were investigated, and four stress factors including personal, workplace, financial and life events were identified.⁴² At the end of the follow-up, the researchers concluded that all the protective factors had significant odds, which proved a protective effect for these factors. Key factors like social support, physical activity and education can significantly prevent anxiety and depression. On the other hand, reduction or elimination of the identified stress factors can decrease the incidence of such disorders.

Among current strategies for prevention of depression and anxiety, social protection, promoting public health education, available counselors and periodic screening of mental disorders are noteworthy.³⁰ These measures require intra-sectoral and inter-sectoral organizational cooperation, particularly NGO involvement.^{30,43-45}

Spreading information on the prevalence, economic and social burden of depression and anxiety is an effective way to increase the sensitivity of policy makers about the importance of mental health.

According to the documentaries issued by the World Health Organization, providing community-based health services by non-specialist staff of the health sector is one of the important ways to increase access to health services in low- and middle-income countries. In community-based programs, the interventions involve both healthy and sick people.

The greatest limitation of this study was the relatively small number of studies and heterogeneity of the obtained articles. Due to the application of various measurement tools and questionnaires, we were not able to perform meta-analysis. Studies in the field of “prevention”, “early treatment” or “prevention of recurrence” are often very hard to differentiate, especially when complete data of the study is not accessible.

In search for sources to use in this study, we realized that the studies that compared the effectiveness and efficiency of universal, selective and indicated approaches are very limited. Accordingly, conducting complementary studies is recommended.

In conclusion, women’s health status plays a significant role in the wellbeing and development of societies. Discrimination, violence, social isolation and cultural barriers are among factors that have contributed to the

high prevalence of mental health problems among women. Therefore, health policy-makers should provide affordable and easily accessible mental health services for women. Medical expenses are one of the barriers hindering women from using healthcare services. Thus, increasing insurance coverage can facilitate women's access to healthcare particularly in case of specialist referrals and visits.

According to the results of our study, cognitive-behavioral programs play an effective and important role in prevention of depression and anxiety among women. Public health centers in Iran, which are designed for implementing primary health care services are accessible for all women including the disadvantaged populations living in rural areas. These centers can be used for implementing these cost-effective prevention programs to tackle mental health problems among Iranian women all over the country. National organizations and international community have to cooperate in order to support women's health as an inalienable and definite human right.

Authors' Contribution

FM: Selection of articles for this study, prepare the first draft, assessment of the quality of each included study. MN: Assessment of the quality of each included study, prepare the first draft. PM: Edition the first draft, writing the final version of article. AT and FD: Providing guidance on methodology, reviewed the results and improved the quality of this study. All authors reviewed and approved the final version of the manuscript.

Conflict of Interest Disclosures

The authors declare that they have no conflicts of interest at this time.

Ethical Statement

The authors of this article have complied with all ethical standards. The funding source played no role in the design of the study, the analysis, interpretation of data and writing of the paper. The study did not involve human participants and/or animals; therefore, no informed consent was needed.

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