

Scoping Review

Prenatal yoga for physical and psychological health during women's pregnancy: a scoping review

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Abstract

Throughout pregnancy, women's pregnancy will undergo physical and psychological changes. Prenatal yoga can train pregnant women physically, psychologically and spiritually for pregnancy and preparation for childbirth. For reviewing the evidence related to the impacts of prenatal yoga on the physical and psychological features of women's pregnancy. The arrangement of scoping review adopted using Scoping Review PRISMA-ScR. The inclusion criteria for choosing relevant articles were based on original articles published between 2010 until 2020 from database sources namely Wiley Online Library, PubMed, and EBSCO, and free access articles available in full-text format. From 2,548 data selection using PRISMA ScR have obtained 14 articles which fulfilled the inclusion criteria and for critical appraisal using the Joanna Riggs Institute tools. Based on 14 articles obtained, nine articles used the randomized controlled trial method, four used the quasi-experiment method, and one used the qualitative focus group discussion method. The result showed two themes: (1) the physical advantages of gentle prenatal yoga for women's pregnancy were strengthening immunity (Ig A), decreasing the intensity of back pain, and reducing the intensity of leg pain, and (2) the psychological advantages of gentle prenatal yoga for women's pregnancy as a stress intervention experienced, as an intervention to decrease depression symptoms experienced, discomfort reduction due to sleep disorder, intervention anxiety intervention experienced, decreasing cortisol level, decreasing saliva a-amylase, and enhancing mood. The research finding showed that prenatal yoga is beneficial for women's pregnancy physically and psychologically as an intervention to the changes those women's pregnancy during pregnancy.

Keywords: physic; prenatal yoga; psychological; women's pregnancy

1. Introduction

Pregnancy is part of the natural process which women face during certain periods of their lives. There are a lot of changes that occur during the pregnancy process. The changes and increasing burdens will cause serious anxiety, leading to despair in women's pregnancy and lowering the physical and mental health of pregnant women (Sindhu, 2014). Mothers frequently neglect these things. When the body makes changes, it will complain that it might be prevented if the body is balanced, understanding and ready for these changes (Yesie Aprillia, 2019).

Antenatal treatment for pregnant women proceeds to encounter developments in rural and urban areas in a comprehensive and holistic manner (Rafika, 2018). This is one of the realizations of the "Sustainable Development Goals (SDGs)," which points to a decrease in the frequency of mortality and morbidity in pregnant women (Badan Pusat Statistik, 2016). One factor leading to the high maternal mortality rate is the psychological condition of pregnant women (Lisbet, 2013). Many studies stated that 50% of women's pregnancy experience depression in Indonesia (Fauzy & Fourianalisyawati, 2016) and mental health disorders (Tan et al., 2014).

The research data (Gong et al., 2015) illustrated that depression and anxiety have the highest level of danger, such as the likelihood of committing suicide, abortion, and complication during pregnancy. Anxiety is an individual's reaction to an unknown or unclear threat. According to Maimunah and Retnowati (2011), the anxiety aspect consists of physiological aspects (visible such as cold and sweat) and psychological aspects (invisible such as fear and confusion). Depression is another factor influencing pregnant women's mental health besides anxiety (Ludermir et al., 2010). There are three features of depression, namely psychological symptoms (invisible such as unwanted emotion), physiological symptoms (visible such as trembling), and social symptoms (environment relationship).

Doing prenatal yoga becomes one of the ways to keep pregnant women relaxed and calm during their pregnancy (Yesie Aprillia, 2019). Prenatal yoga creates physical awareness and deep relaxation feelings, coupled with stable emotions and a clear mind (Safriani et al., 2018). Prenatal yoga is all about increasing self-awareness. It is necessary for pregnant women to practice safely and not aggressively as well. Pregnant women are easily irritable or angry, hesitant, restless and even likely to want to escape reality. The older the gestational age, the mother's thoughts and attention begin to focus on something which is considered a climax, so the anxiety, stress and depression feelings that the mother encounters will intensify before the birth process (Aswitami, 2017).

Currently, many pregnant women still need knowledge and support about prenatal yoga (Isnaini & Refiani, 2018). Therefore, this scoping review is compiled to systematically map the research that has been conducted on the physical and psychological impacts of prenatal yoga for pregnant women and to identify the existing knowledge gap with research questions determined using the framework Khan (2003), namely PEO (Khan et al., 2003). PEO or PET stands for Population-Exposure-Outcome/Theme. The objective for reviewing the evidence related to the impacts of prenatal yoga on the physical and psychological features of women's pregnancy. An appropriate scoping review question was obtained: What is known to form the literature regarding both physical and psychological effects of prenatal yoga during women's pregnancy?

2. Research Methods

2.1. Protocol and Registration

The scoping review protocol was significant since it set up the goals, strategies and detailing of previous reviews and permits straightforwardness in the review cycle. The researcher used Scoping Review protocol PRISMA-ScR (Tricco et al., 2018). PRISMA-ScR was made by different scoping review and evidence synthesis experts including JBI/ JBIC members to suit the JBI scoping review methodology (Peters et al. 2017). After a group meeting to examine the scoping review methodology, the PRISMA-ScR refreshed variant of the JBI scoping review methodology was presently accessible.

2.2. Eligibility Criteria

These inclusion rules were applied to recognizing pertinent articles since the researcher needed to choose the most recent prof and incorporate significant arrangement, for example, SDG's which was the explanation of researcher to select articles over the most recent ten years since the researcher's capacity was bilingual so the researcher chose articles distributed in Bahasa or English. The researcher had also decided on the chosen theme in seek for articles so that the articles involved could be more particular. In addition, the researcher selected the original type of articles to utilize since the researcher focused on articles not reviewed by other researchers. The researcher also selected free access articles available in a full-text format to facilitate screening and review of articles.

2.3. Information Sources

The researcher identified the relevant articles in conducting evidence searches by utilizing databases from 2010 to 2020, human and original research, specifically PubMed, EBSCO, and Wiley Online Library. The researcher also utilized Google Scholar as a search engine for searching grey literature. The final search results were exported to Zotero and duplicate articles found were removed library technician.

2.4. Search

The search strategy and the specific keywords used in the search process articles by entering keywords which match the theme of Advance, namely ((((((((((physical*) OR psychological*) OR depression*) OR stress*) OR anxiety*) AND antenatal*) OR prenatal*) OR pregnancy*) AND prenatal gentle yoga*) OR prenatal yoga*). To obtain appropriate articles with the inclusion rules researcher investigated articles for the publication period of 2010 to 2020, in English or Indonesian, human, full text, and free access. All databases used Boolean operators to assist organize flexible article searches (EBSCO, 2018). The function of the Boolean operator “OR” is combining search terms so that every search outcome contains all of the terms. Meanwhile, the function of the Boolean operator “AND” is combining search terms so that every search outcome contains at any rate a term.

2.5. Selection of Sources of Evidence

The data filtering process used PRISMA, namely Preferred Reporting Items for Systematic Reviews and Meta-analyses, created to help researchers enhance the detailing of systematic reviews to be incorporated into meta-analyses (Hutton et al., 2015). In scoping review, PRISMA – Scoping review (PRISMA-ScR) was better to be utilized as a guide in scoping review reporting with four stages, namely identification, screening, eligibility, and included articles (Danquah et al., 2019).

2.6. Data Diagramming Process

The data diagramming is directed by classifying general and specific data associated with the writer, research area, population, type of intervention, research objective and methodology, and the articles' significance (Arskey & O'Malley, 2005). The researcher reviewed and identified each article by determining the data, as follows the name of the articles, including the title, name of the writer, year of publication, country and objective; research methods, including the type of research, research design, research instrument, the number and the characteristic of respondents (pregnant women who participated in prenatal yoga class); and result, that is the findings of research which has been conducted.

2.7. Data Items

The data item is making a list of vital things and deciding all the variables in the obtained article and making simplifications related to the data in an article (Tricco et al., 2018). The researcher abstracted data on the attributes of articles, qualities of contribution and logical variables identified with the usefulness of prenatal yoga class depending on existing evidence.

2.8. Critical Appraisal of Individual Sources of Evidence

Critical appraisal is able to be a step to determine the quality of articles. The critical appraisal allows the researcher to notify the danger of the counted studies and the general quality of evidence that will be presented (Danquah et al., 2019). The researcher in assessing the quality used the JBI's critical appraisal tools. Each research method encompasses a distinctive critical appraisal checklist.

2.9. Synthesis of Results

The data synthesis was conducted in two steps. In the primary step, all extracted statements relating to skills, knowledge, or attitudes for assessment of the information have been compiled and duplicated statement. This created a list of new outcome statements. In the second stage, the statement was grouped after thematic analysis and then appeared into themes (Bazeley, 2009). To ensure the saturation point has been reached, there is no new information found which can be extracted and analyzed (Guest et al., 2006).

3. Results and Discussion

3.1. Selection of Sources of Evidence

The researcher links the PRISMA-ScR image to make an easy explanation of the article's selection process completely and transparently (Tricco et al., 2018). In the process of searching for articles in three databases, 2,584 articles were identified as relevant to the scoping review question (figure 1). There were 108 duplicate articles and they were immediately eliminated. Afterward, the articles were further reviewed to find accurate and complete references regarding prenatal yoga's physical and psychological impacts on women's pregnancy.

The researcher screened the titles and abstracts in the first process and eliminated 2,395 articles. In the second process, the researcher carried out a full-text reading, obtained 45 articles and then the researcher obtained the final number of 14 articles based on predetermined inclusion and exclusion criteria which would be used for scoping review. The recommendations from the review results which have been led demonstrated that prenatal yoga is valuable/advantageous for women's pregnancy psychologically, specifically as an intervention in reducing depression and anxiety side effects faced by mothers. Besides, physical activity during women's pregnancy attends prenatal yoga classes affect the body in dealing with pregnancy and preparing for childbirth.

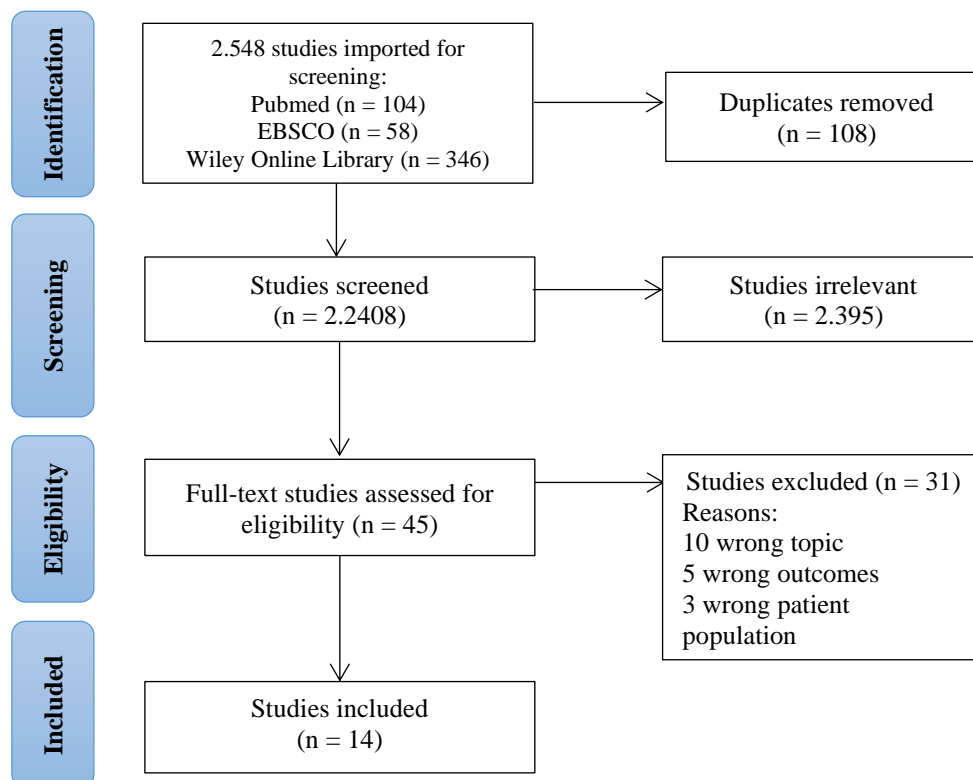


Figure 1. PRISMA-ScR

3.2. Characteristics of Sources Evidence

The characteristics of the articles were compiled as an advancement exertion by the researcher to affirm the importance and to remove studies for example year of publication, kind of publication, sort of study, terminology, utilize of the distributed framework, assessment of individual study quality, sort of data sources included, number of reviewers, and challenges as well as breaking point announce (Pham et al., 2015).

The distributions result of articles characteristics utilized in this scoping review (figure 2) were nine articles with a quantitative randomized controlled trial method, four articles of the quantitative quasi-experiment method, and one qualitative article method. The quality of the articles was gathered into 4, specifically grade A (very good) with eight articles, grade B with four articles, grade C with 1 article and grade D (not good) as numerous as 1 article. The research locations came from different countries, namely developing countries 11 articles. Where as from developed countries were three articles. The database sources of the 14 articles were PubMed with two articles, EBSCO with seven articles and five articles from Wiley Online Library.

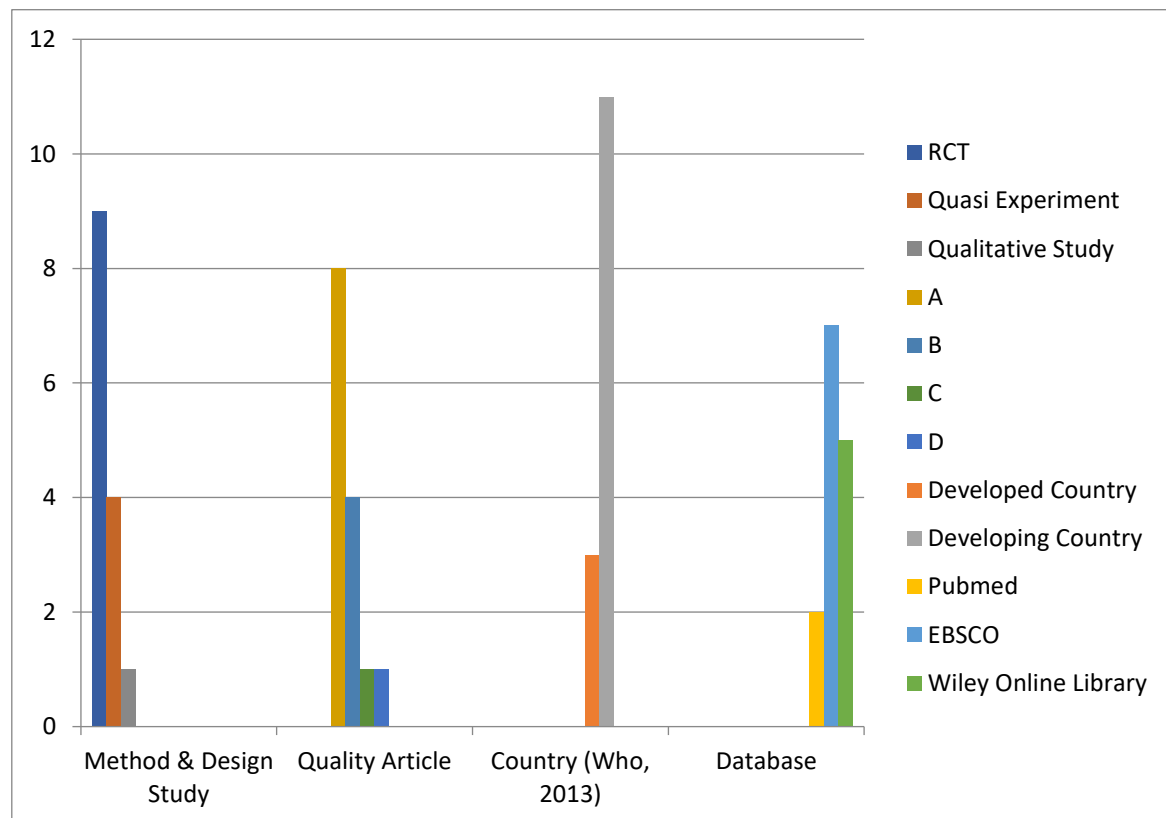


Figure 2. Article characteristics

3.3. Critical Appraisal Within Sources of Evidence

In the critical appraisal stage, there were 14 articles in accordance with the inclusion criteria set by the researcher. The selected articles utilized quantitative research methods with different sorts of research designs. Specifically, nine articles on RCT, four articles on a quasi-experiment, and one article utilized a qualitative research method. Fourteen articles were included in the critical appraisal (table 1). The result of the critical appraisal stage utilized evaluation scale A, B, C, and D to have the option to recognize among articles that were remembered for the classes, namely Very Good (Grade A), Good (Grade B), Good Enough (Grade C), and Not Good (Grade D) each purpose of the evaluation was addressed by numbers 1-4 with the qualifications as follows not applicable; unclear; and yes; the range

of assessment decided by the researcher in the form of a percentage (%) for the critical appraisal stages were A (100 – 76), B (75 – 51), C (50 – 26) and D (25 – 0).

Table 1. The result of critical appraisal

Article	Study Design	Scoring (%)	Grade
(Chen et al., 2017)	RCT	78	A
(Battle et al., 2015)	Quasi Experiment	80	A
(Bershadsky et al., 2014)	Quasi Experiment	94	A
(Manincor et al., 2016)	RCT	86	A
(Field et al., 2013b)	RCT	48	C
(Field et al., 2013a)	RCT	69	B
(Field et al., 2012)	RCT	80	A
(Cs et al., 2013)	RCT	69	B
(Kinser & Masho, 2015)	Qualitative Study	85	A
(Kusaka et al., 2016)	Quasi Experiment	78	A
(Muzik et al., 2012)	Quasi Experiment	25	D
(Newham et al., 2014)	RCT	79	A
(Satyapriya et al., 2013)	RCT	71	B
(Uebelacker et al., 2016)	RCT	71	B

3.4. Results of individual sources of evidence

Data extraction is the process of providing knowledge to the readers about a logical and descriptive summary of the article's result, which is in line with the objectives and scoping review questions (Schleiff et al., 2020).

Table 2. The data extraction

No	Author (Year)/ Title/ Country	Aim of Study	Method and Design Study	Result	Themes
1.	(Chen et al., 2017)/ Effects of prenatal yoga on women's stress and immune function across pregnancy: A randomized controlled trial/ Taipei, Taiwan, China	Contrasting stress changes and immune biomarkers of saliva from 16 to 36 weeks of pregnancy between women conducting prenatal yoga and those accepting timetable prenatal treatment	Longitudinal quantitative study, prospective, randomized controlled trial, 94 respondents	Prenatal yoga significantly diminishes the stress of women's pregnancy and enhances their immune functions. Doctors must investigate the mechanics of yoga and its effect on women's pregnancy because it may be a new and	1. The physical advantages of prenatal yoga 2. The psychological advantages of prenatal yoga

No	Author (Year)/ Title/ Country	Aim of Study	Method and Design Study	Result	Themes
2.	(Battle et al., 2015)/ Potential for Prenatal Yoga to Serve as an Intervention to Treat Depression During Pregnancy/ Rhode Island, Amerika Serikat	To investigate the acceptance and feasibility of gentle prenatal yoga for depression treatment during pregnancy.	Quantitative Study In an open pilot trial (quasi-experiment), there were 34 respondents with a gestational age of 12 to 26 weeks.	applicable finding. This research showed that prenatal yoga could be a proper approach to treating antenatal depression. It has a more noteworthy acceptance of women's pregnancy than other standard depression treatments.	1. The psychological benefit of prenatal yoga
3.	(Bershadsky et al., 2014)/ The effect of prenatal Hatha yoga on affect, cortisol and depressive symptoms/ California, Amerika Serikat	To look at the quick impact of the prenatal yoga period on cortisol and its effect on gestational age, similarly as to decide the effect of prenatal yoga training on APD and PPD indications.	Quantitative Study In a mixed within- and between-subject design (quasi-experiment) there are 51 respondents with a gestational age of 12 to 19 weeks	The finding showed that Hatha prenatal yoga could enhance mood and successfully lower indications of postpartum depression.	1. The psychological benefit of prenatal yoga
4.	(Manincor et al., 2016)/ Individualized Yoga for Reducing Depression and Anxiety, and Improving Well-Being: A Randomized Controlled Trial/ New South West	To examine the effect of individual yoga interventions on women's pregnancy.	Quantitative Study A randomized controlled trial with 101 respondents.	Yoga with regular pregnancy treatment has been found to be effective in lowering depression symptoms compared to regular treatment. Individual yoga is exceptionally valuable in	1. The psychological benefit of prenatal yoga

No	Author (Year)/ Title/ Country	Aim of Study	Method and Design Study	Result	Themes
5.	(Field et al., 2013b)/ Yoga and social support reduce prenatal depression, anxiety and cortisol/ Amerika Serikat	To appeal to the impacts of yoga (physical activity) with social support (verbal activity) on pregnant and postpartum women.	Quantitative Study In a randomized controlled trial, 92 respondents with a gestational age of at least 12 weeks.	mental health in the wider communities. In conclusion, the yoga bunches told that they have more modest melancholy, nervousness, outrage, and back and leg torment than the social care groups. The two of them have more limited gloom (CES-D), nervousness (STAD), and outrage (STAXI) scores and expanded relationship scores. Moreover, cortisol level decreases for the two gatherings after every period. Estriol and progesterone level decreases after the last meeting. In baby blues follow-up moms, misery and uneasiness levels are more modest for the two gatherings.	1. The physical advantages of prenatal yoga 2. The psychological advantages of prenatal yoga
6.	(Field et al., 2013a)/ Tai chi/ yoga reduces	To investigate the impacts of conducting a short tai chi/	Quantitative Study A randomized controlled trial with 92 respondents and	In the last session, the tai chi/ yoga groups had	1. The psychological advantages of prenatal yoga

No	Author (Year)/ Title/ Country	Aim of Study	Method and Design Study	Result	Themes
	prenatal depression, anxiety and sleep disturbances/ Amerika Serikat	yoga routine on prenatal anxiety.	gestational age of at least 12 weeks.	more limited sadness (CES-D) scores, just as more limited negative substantial/vegetative side effect scores on CES-D scores, more limited uneasiness scores (STAI) and more limited rest problem scores.	
7.	(Field et al., 2012)/ Yoga and massage therapy reduce prenatal depression and prematurity/ Amerika Serikat	To advance the effects of back rub treatment, yoga and standard prenatal treatment group for burdensome women's pregnancy from a similar center populace.	Quantitative Study A randomized controlled trial, with 84 respondents and 18 to 22 weeks of gestational age.	Following 12 weeks of yoga or back rub therapy sessions performed twice a week (20 minutes) both treatment groups compared to the control group experienced more prominent reductions in depression, anxiety, and back and leg pain scales.	1. The physical advantages of prenatal yoga 2. The psychological advantages of prenatal yoga
8.	(Cs et al., 2013)/ Yoga for High-Risk Pregnancy: A Randomized Controlled Trial/ Bangalore South India	To survey the yoga treatment model (YT) on maternal stress rate in high-hazard pregnancy.	Quantitative Study A single-blind randomized controlled clinical trial with 68 respondents and gestational age of 12 to 28 weeks.	The YT model can diminish anxiety during high-hazard pregnancy inconveniences. Consequently, rehearsing YT during pregnancy isn't just financially savvy yet additionally down to earth	1. The psychological benefit of prenatal yoga

No	Author (Year)/ Title/ Country	Aim of Study	Method and Design Study	Result	Themes
9.	(Kinser and Masho, 2015)/ "I Just Start Crying for No Reason": The Experience of Stress and Depression in Pregnant, Urban, African American Adolescents and Their Perception of Yoga as a Management Strategy/ Virginia, Amerika Serikat	To investigate the stress and depression encounters of teenagers, urbanites, and adolescents and test their perceptions of extra non-pharmacological management strategies with yoga.	Quantitative Study Focus on group discussion, a sample size of 17 participants with gestational age 18 to 22 weeks.	and protects choice in managing the anxiety of dangerous pregnancy. The finding indicated that teenagers need group-based interactive activities, and those fascinated by yoga classes for stress/ depression management and building healthcare provider relationships are fundamental.	1. The psychological benefit of prenatal yoga
10.	(Kusaka et al., 2016)/ Immediate stress reduction effects of yoga during pregnancy: One group pre-post-test/ Tokyo, Japan	To demonstrate the direct effect of yoga on stress reaction during pregnancy	Quantitative Study In one group pre-post test (quasi-experiment), the number of samples was 60 respondents with gestational ages 27-32 weeks and 34-37 weeks.	This research illustrated the direct stress-reducing effects of yoga during pregnancy.	1. The psychological benefit of prenatal yoga
11.	(Muzik et al., 2012)/ Mindfulness yoga during pregnancy for psychiatrically at-risk women: Preliminary results from a pilot	To investigate the feasibility, acceptance and successfulness of M-Yoga in lowering depression symptoms among women's	Quantitative Study A pilot study (quasi-experiment) with a sample size of 18 respondents with a gestational age of 12-26 weeks.	The finding delineated that M-Yoga can be a compelling elective treatment or pharmacotherapy enlargement for women's pregnancy at	1. The psychic benefit of prenatal yoga

No	Author (Year)/ Title/ Country	Aim of Study	Method and Design Study	Result	Themes
12.	feasibility study/ Amerika Serikat (Newham et al., 2014)/ Effects of Antenatal Yoga on Maternal Anxiety and Depression: A Randomized Controlled Trial/ United Kingdom, Inggris	pregnancies with a psychiatric diagnosis. To appeal to maternal anxiety, particularly anxiety of childbirth, women at low risk of depression, and primiparous with an 8-week antenatal yoga programs.	Quantitative Study A randomized controlled trial with a sample size of 59 respondents with a gestational age of at least 13 weeks.	the high possibility of psychopathology. Antenatal yoga reduces anxiety levels and cortisol levels after one session, and this impact is reliable over time. Antenatal yoga is related to a significant reduction in anxiety at birth and potentially avoiding an enhancement in depression symptoms.	1. The psychic benefit of prenatal yoga
13.	(Satyapriya et al., 2013)/ Effect of integrated yoga on anxiety, depression & well being in normal pregnancy/ Bengaluru, India	To examine the impact of coordinated yoga on the experience of pregnancy, uneasiness and misery in a typical pregnancy.	Quantitative Study A prospective randomized control study with 96 respondents	Yoga reduces anxiety, depression, and uncomfortable experience related to pregnancy.	1. The psychic benefit of prenatal yoga
14.	(Uebelacker et al., 2016)/ A pilot randomized controlled trial comparing prenatal yoga to perinatal health education for antenatal depression/ Amerika Serikat	RCT trials comparing prenatal yoga and perinatal health information focused on women's pregnancies with depression.	Quantitative Study A pilot randomized controlled trial with 59 respondents	No yoga-related wounds were observed, instructors indicated involvement in yoga sessions and women's pregnancy accepted yoga as an intervention. In spite of the fact that the	1. The psychic benefit of prenatal yoga

No	Author (Year)/ Title/ Country	Aim of Study	Method and Design Study	Result	Themes
				increases in depression do not differ statistically between groups, they preferred yoga. Prenatal yoga is an energizing alternative since it is broadly available, sufficient for women's pregnancy, and guarantees positive impacts on physical and mental health.	

3.5. Synthesis of results discussion

The result of this scoping review obtained two themes in which each theme has a sub-theme (figure 3), namely theme 1, the physical advantages of gentle prenatal yoga for women's pregnancy were strengthening the immunity (Ig A) in women's pregnancy, decreasing the intensity of maternal back pain, and reducing the intensity of leg pain in the woman's pregnancy. Theme 2, the psychological advantages of gentle prenatal yoga for women's pregnancy were as a stress intervention experienced by the mother, as an intervention to decrease depression symptoms experienced by the mother, discomfort reduction due to sleep disorder, as an anxiety intervention experienced by mother, decreasing cortisol level, decreasing saliva a-amylase, and enhancing mood.

Reference	Evidence used Primary studies	
	Physical	Psychological
	↑ immunity (Ig A) ↓ back pain ↓ leg pain	↓ stress ↓ depression ↓ sleep disorder ↓ anxiety ↓ cortisol level ↓ a-amylase saliva ↑ mood
(Chen et al., 2017)	X	X
(Battle et al., 2015)		X
(Bershinsky et al., 2014)		X

Reference	Evidence used Primary studies									
	Physical			Psychological						
	↑ immunity (Ig A)	↓ back pain	↓ leg pain	↓ stress	↓ depression	↓ sleep disorder	↓ anxiety	↓ cortisol level	↓ a-amylase saliva	↑ mood
(Manincor et al., 2016)				X	X		X			
(Field et al., 2013b)	X	X			X		X	X	X	
(Field et al., 2013a)						X	X			
(Field et al., 2012)	X	X			X		X			
(Cs et al., 2013)				X						
(Kinser and Masho, 2015)					X					
(Kusaka et al., 2016)								X	X	X
(Muzik et al., 2012)					X					
(Newham et al., 2014)					X		X			
(Satyapriya et al., 2013)					X		X			
(Uebelacker et al., 2016)					X					

Figure 3. Theme and sub-theme result

3.6. Summary of Evidence

The physical benefits of prenatal yoga for women's pregnancy are as follows:

3.6.1 Strengthening Immunity (Ig A) for Women's Pregnancy

According to Chen et al. (2017) indicated that prenatal yoga was significantly beneficial for women's pregnancies in decreasing their stress and reinforcing long-term immunity. The presence of physical movement during yoga triggers the body to extend the production of Ig A saliva. This research is new, so further investigations are required to examine the impacts of yoga on immune function in women's pregnancies.

3.6.2 Decreasing The Intensity of Maternal Back Pain

Meanwhile, according to Field et al. (2013b), the intervention in the yoga group experienced a few changes before and after the intervention, one of which was a reduction in back pain on the primary and final days. This was diverse from the control group, which did not appear to have critical changes. In the result of research entitled Yoga and Massage Therapy Reduce Prenatal Depression and Prematurity in 2012, there was a decrease in back pain scores ($F Z 39.06, p < 0.001$) for the intervention group (Field et al., 2012a).

3.6.3 Reducing The Intensity of Leg Pain in Women's Pregnancy

From the research of Tiffany Field et al., intervention action was repeatedly conducted with group interaction. Changes were experienced before, and after the intervention, specifically reducing leg pain on the first day (Field et al., 2013b). Where as the result of the study (Field et al., 2012a) indicated reduced leg pain scores ($F Z 19.77, p > 0.001$) for the intervention group.

The psychological benefits for women's pregnancy are as follows:

3.6.4 As a Stress Intervention Experienced by Women's Pregnancy

Based on the findings Manincor et al. (2016) yoga interventions were effective in decreasing psychological stress, expanding mental well-being, expanding the frequency of positive encounters and decreasing negative encounters. ANOVA examination demonstrated that yoga intervention headed to a measurably huge decrease in stress scores on total DASS ($p = 0.03$), K10, mental health SF12, SPANE, FS, and perseverance scores ($p < 0.01$ for each). Based on the research (Cs et al., 2013), there was a huge distinction in PSS (Perceived Stress Scale) levels in the YT (Yoga Therapy) group with scores basically diminished at the second follow-up (28th week of gestation) appeal to control group ($p = 0.02$). The benefits of YT for mothers and children in high-risk pregnancies are increasing maternal blood oxygenation, enhancing circulation to and from the placenta, and reducing stress on the mother, which has a long-term positive effect on the health of both mother and child.

3.6.5 As an Intervention to Decrease Depression Symptoms Experienced by The Mother

The findings Battle et al. (2015) indicated that prenatal yoga interventions were proper to give and acceptable to women who become respondents. There were no injuries or other safety problems during the research. A significant reduction in serious depression was studied before and after treatment. On average, the respondents' serious depression reduced significantly at the last of the intervention based on their observation depression rating. The researcher observed that attention relates to depression, and there was enhancement attention over time when women's pregnancy takes part with in the research.

According to Bershadsky et al. (2014) from an exploration of one-way ANOVAs and Pearson connections illustrated that depression indications did not depend on socio-demographic (all n) and the t-test demonstrated that APD (Antepartum Depression) did not depend on yoga practice frequency. However, women who trained in yoga twice a week or more in the weeks before the primary evaluation informed less symptoms of PPD (Postpartum Depression) ($M = 2.13$, $SD = 1.55$) than women who trained in yoga once a week or less ($M = 4.72$, $SD = 2.72$; $t(24) = 2.51$, $p < 0.05$) so it can be concluded that this research shows the effect yoga training during pregnancy may not be felt directly but it can be felt during pregnancy and post-partum development.

According to Manincor et al. (2016), there were measurably critical varieties between yoga and the control group in decreasing depression score (-4.30 ; 95% CI: -7.70 , -0.01 ; $P = 0.01$; ES -4.44). The research was conducted six weeks after that conducted follow-up. The overall result indicated that conducting yoga intervention as a routine treatment effectively decreases depression symptoms compared to other usual treatments. The research Field et al. (2013b) explained to measure the depression level utilizing the Structured Clinical Interview Depression (SCID) instrument, Edinburgh Postnatal Depression Scale (EPDS) and Profile of Mood States (POMS) in which there was a reduction between before and after the intervention. Increasing vagal activity after yoga can be observed as a related effect on reducing depression and stress symptoms. The result of the study (Field et al., 2013a) from the ANOVAs test demonstrated that yoga could reduce depression scores with the CES-D (The center for epidemiological studies-depression scale) instrument, namely $32.4 (10.2)$ - $23.5 (9.0)$ ($p = 0.001$) while on affect subscale $9.5 (3.7)$ - $6.3 (3.5)$ ($p = 0.001$) somatic/ vegetative subscale $10.5 (3.7)$ - $7.4 (3.4)$ ($p = 0.01$).

According to a study Field et al. (2012b) demonstrated, the finding of the study was estimated by ANOVAs showed that yoga could decrease depression indications for respondents ($F = 82.40$, $p < 0.001$). Based on Kinser & Masho (2015), the respondent conveyed that they often experienced depression symptoms such as crying all the time, trouble finding happiness in fun activities, fractiousness and trouble getting out of bed. This exploration demonstrated that respondents participated in intuitive gathering-based movement which will satisfy their specific necessities, for example, data and procedure for overseeing feelings and stress help action and social help so the respondents were interested in yoga classes for pressure/discouragement the executives and relationship building. It is fundamental that

well-being treatment suppliers and specialist center around these necessities, particularly when planning wretchedness avoidance and intercession techniques. The findings of Muzik et al. (2012) showed that M-Yoga is sufficient and powerful in reducing depression symptoms significantly ($p=0.025$) which indicates that M-Yoga can be a successful elective treatment or enlargement for pharmacotherapy for women pregnancy who high danger for psychopathology.

Based on Newham et al. (2014) used The Edinburgh Postnatal Depression Scale (EPDS) instrument, and there was a significant reduction in the EPDS score before and after the intervention ($B= -3.06$; BCa 95% CI = -5.9 to -0.17 ; $p= 0.042$; $d=-0.5$) so that antenatal yoga was useful for preventing an enhancement in depression symptoms. According to Satyapriya et al. (2013), there was a significant change in a group (Wilcoxon $p<0.001$) in which depression (HADS) (decreased by 30.67% in the intervention group who conducted yoga and increased by 3.57% in the control group). The reason for the enhancement in the control group, in spite of the fact that it is defined that physical activity decreases stress and improves health, shows up that this is not adequate to prepare women to manage psychological responses in the face of changing circumstances such as anticipating complication and childbirth pain.

According to Uebelacker et al. (2016), even though changes were not statistically various between the prenatal yoga program (PYP) and the mom-baby wellness workshop (MBWW), the respondents preferred PYP with a diversity between a group of 0.48 standard deviation units for QIDS and 0.4 standard deviation unit for EPDS. The conclusion is women's pregnancy needs more selected treatment in depression medication. Prenatal yoga is an energizing alternative since it is broadly available, sufficient for women's pregnancy and promising in positive things for physical and mental health for women's pregnancy.

Perinatal depression has adverse outcomes for mothers, their children and their families/husbands. Instruments that can be used or considered as a means of screening for depressive symptoms in both postpartum pregnancy. Most instruments are self-reported questionnaires and therefore, can be used in primary health centers. However, using several different screening tools and threshold values may impact the wider prevalence of perinatal depression (Pratiwi and Glover, 2019). Prenatal yoga classes are also a form of mental support for pregnant women to affect the incidence of pregnant women with psychological disorders (Amita & Ratnaningsih, 2020).

3.6.6 Discomfort Reduction Due to Sleep Disorder

In the research (Field et al., 2013a), the scale utilized was Synder-Halpern and Verran scale with sleep disorder reduction in the intervention group who conducted yoga (56.6 (20.1) to 53.5 (19.5) $p=0.05$). Meanwhile, in the control group, the result showed that there was an enhancement in sleep disorder (54.4 (19.7) to 62.1 (18.4) $p=0.05$).

3.6.7 As Anxiety Intervention Experienced by The Mother

From the research by Manincor et al. (2016), the difference in anxiety reduction scores was not genuinely huge (-1.91 ; 95% CI: -4.58 , 0.76 ; $p= 0.16$). Yoga intervention is also effective at reducing psychological trouble, improving mental health generally, increasing positive experience frequency, and reducing negative experience. According to (Field et al., 2013b), using State Anxiety Inventory (STAI) showed a reduction score that yoga could be an effective intervention to reduce anxiety. Enhancing vagal activity indicates that stress related to pregnancy can be significantly reduced by yoga.

The finding (Field et al., 2013a) showed enhancement of vagal activity after yoga could explain anxiety reduction (54.2 (9.2)-46.1 (7.9), $p= 0.001$). According to Field et al. (2012b) used, ANOVAs analysis indicated an anxiety reduction score ($F=26.23$, $p<0.001$). The research (Newham et al., 2014) demonstrated that one yoga session decreased subjective and physiological action of anxiety (STAI-S); the anxiety reduction induced by this yoga class remains in the last intervention session. The multiple

linear regression investigation recognized allocation to yoga as anticipating a more noteworthy decrease score in Wijma Delivery Expectancy Questionnaire (WDEQ) ($B=-9.59$; $BCa\ 95\% CI= .18.25\ to\ .40.43$; $p= .14$; $d= .50.57$), in which there was no significant difference which was observed in the stated or trait anxiety score between baseline and followed up. The result of the study (Satyapriya et al., 2013) illustrated that anxiety estimated by HADS was additionally reduced in yoga (29.12% $p<0.001$), with a huge contrast between groups ($p<0.001$). Practicing yoga frequently prepares women's pregnancy to manage psychological responses to the situations they will experience, such as anticipation of complications and childbirth pain.

3.6.8 Decreasing Cortisol Level

According to Chen et al. (2017), comparing the effect of yoga time on saliva cortisol levels at distinctive times, we indicated that the pretest control group's saliva cortisol level at 36 weeks of pregnancy was considerably greater than at 16 weeks pregnancy (36 weeks vs. 16 weeks, $p<0.001$) and closer to the line border was essentially greater at 32 weeks pregnancy ($p=0.072$). In contrast, we demonstrated no huge time impact in the intervention group on pre-yoga saliva cortisol level of test assortment ($p=0.271-0.886$). This research indicated that yoga training positively affects women's pregnancy health. A non-industrial nation with an incredibly serious society was essential to figure out how to diminish pressure. The specialist likewise needs to become familiar with yoga mechanics and their impact on women's pregnancy.

Based on Field et al. (2013b) measurements using ANOVAs showed that both groups experienced cortisol reduction from before and after yoga on the primary and last day (the primary day was 0.35-0.27 and the last day 0.47-0.32). Yoga can be utilized as an intervention in reducing cortisol because it is a cost-effective treatment for decreasing depression, anxiety, and anger symptoms and improving the relationship. According to (Kusaka et al., 2016), the changes in saliva cortisol concentration before and after yoga class showed that the average decreased essentially after each class [time 1: 0,36-0,26 mg /dL ($p< 0.001$), time 2: 0,32-0,26 mg / dL ($p=0.001$)]. The saliva cortisol reduction observed in this research illustrated the reproducibility of the finding in the previous study in different countries and races. These changes result because yoga mediation and typical diurnal pattern reduce slowly. Thus, this research showed the reduction of saliva cortisol through yoga.

3.6.9 Decreasing saliva a-amylase

According to Kusaka et al. (2016) indicated that there were concentration changes of saliva a-amylase before and after yoga class. The mean saliva amylase concentration decreased considerably after each class [time 1: 72.2-50.8 kU/ L ($p=0.001$), time 2: 70.6-52.7 kU/ L ($p=0.006$)]. This research is the primary prove of a reduction in saliva a-amylase concentrations after yoga classes in women's pregnancies. The result showed that HPA and SAM axis activation is lower after yoga. In addition, saliva a-amylase concentration in this research is decreased due to the diurnal increase. Hence, our finding concludes that a-amylase reduction is mainly due to yoga.

3.6.10 Enhancing Mood

According Kusaka et al. (2016) the researcher analyzed 44 and 35 women in each session one and session 2. The score for the negative mood element (trait anxiety, depression, anger-hostility, fatigue, and confusion) was reduced considerably. The vigor score for positive measurement considerably progressed. In this way, the progressions may not be clinically huge for the impact on the psychological stress response due to physical activity during yoga class. In addition, maybe within the process of filling in answers on the POMS scale, the respondents already know that this intervention was carried out for them to conduct research.

4. Conclusion

The results of scoping review of 14 articles which have been led demonstrated that prenatal yoga is valuable/advantageous for women's pregnancy psychologically, specifically as an intervention in reducing depression and anxiety side effects faced by mothers. Besides, physical activity during women's pregnancy attends prenatal yoga classes affect the body in dealing with pregnancy and preparing for childbirth. There are some limitations of this research. First, although a thorough literature search has been conducted, it is possible that some articles were missed. Only articles in English and Indonesian are included, which leads to some data losses. Second, most research utilizes a quantitative randomized control trial method, so the findings are limited and do not thoroughly explore the benefits of women's pregnancy following prenatal yoga. A systematic quantitative review is worth it to be performed. However, on the other hand, qualitative research is still very limited, so there is a recommendation for further research in accordance with the purpose of implementing the scoping review. The researcher funds this research by herself.

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