

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Web-based interventions for pregnant women with gestational diabetes mellitus: a systematic review and meta-analysis protocol
AUTHORS	Guo, Ping-ping; Jin, Yin; Xiang, Zhenzhen; Chen, Dan; Xu, Ping; Wang, Xiaojuan; Zhang, Wei; Mao, Minna; Zheng, Qiong; Feng, suwen

VERSION 1 – REVIEW

REVIEWER	Emma Motrico Universidad Loyola Andalucia, Psychology
REVIEW RETURNED	05-Mar-2022

GENERAL COMMENTS	<p>Thank you for inviting me to review the paper " Web-based interventions for pregnant women with gestational diabetes mellitus: a systematic review and meta-analysis protocol". This paper aimed to address an important clinical issue. Your research topic is highly important and as you mention the ongoing pandemic has highlighted the need of digital tools to help pregnant women with gestational diabetes. Although this study has scientific interest, some aspects should be reviewed by the authors. I hope that my opinions will help shape your research article more precise and interesting. The followings are my comments:</p> <p>1) Your protocol is well combined in accordance with Prisma guidelines and registered in the PROSPERO register. The eligibility criteria by PICO model are also well done, but I miss the rationale of the study design. Justification of RCT and CCT must be included.</p> <p>2) My concern also is about the large number of secondary outcomes, as it is not clear how they will be analyzed and combined in a meta-analysis.</p>
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REVIEWER	Rihua Xie General Practice Center, Nanhai Hospital, Southern Medical University, Department of Nursing
REVIEW RETURNED	14-May-2022

GENERAL COMMENTS	<p>This protocol aims to determine the all-round efficacy of web-based interventions for pregnant women with GDM and it is very meaningful to make decisions in the clinical settings. My suggestions are as follows.</p> <p>First, the secondary outcome includes maternal mental health; thus, it is necessary to search the PsycINFO database.</p> <p>Second, language should be polished.</p> <p>Third, five electronic databases (PubMed, Web of Science, Cochrane Central Register of Controlled Trials, Embase and CINAHL) should be searched from inception to XX day (e.g. 31)</p>
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	January 2022. Last, the methodological quality assessment tool, the Effective Public Health Practice Project (EPHPP), should add the original reference or web sites.
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REVIEWER	Chunyi Gu Obstetrics and Gynecology Hospital of Fudan University
REVIEW RETURNED	15-May-2022

GENERAL COMMENTS	<ul style="list-style-type: none"> - In the introduction section, the first four paragraphs need appropriate simplification. - Line 67, the word 'all-round' in this protocol may not cover all the outcomes and should be deleted. - The authors used 'efficacy' or 'effectiveness' in different parts of this protocol (eg. line 67, 165, 190, 195, 198, 367...), which should be kept consistent with the objective of the study. - Please conduct a thorough proofread of the text and correct any spelling and grammar errors that you identify (eg. line 242, 307, 368, 381...) - Study selection: please add the initials of the authors' names after "two authors" and the "senior reviewer". - Discussion: why and how the authors choose the primary and secondary outcomes, and the three subgroups analyses need to be explained.
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1			
<p>1. Your protocol is well combined in accordance with Prisma guidelines and registered in the PROSPERO register. The eligibility criteria by PICO model are also well done, but I miss the rationale of the study design. Justification of RCT and CCT must be included.</p>	<p>Agree with the reviewer. In the METHODS AND ANALYSIS section-Eligibility criteria for selecting studies-Types of study, we have added the justification that the RCT and CCT must be included. Before modified “We will include RCTs and CCTs that published in peer-reviewed English journals.”. After modified “We will include RCTs and CCTs that have been published in peer-reviewed English journals, which are good standards for evidence-based clinical research.⁴⁹”.</p>	8	208
<p>2. My concern also is about the large number of secondary outcomes, as it is not clear how they will be analyzed and combined in a</p>	<p>Thanks so much for the reviewer’s comments. Please allow us to first explain that in the original manuscript, we had made some illustration about the way that we will use to synthesize the outcomes in the METHODS AND ANALYSIS section-Data analysis-Data synthesis; for better understanding, we have made some modifications to the relevant contents in the revised manuscript. After modified “A meta-analysis will be conducted when there are sufficient studies (no less than two studies) with available data investigating the same outcome by similar effect measures. For outcomes that could not be quantitatively</p>	12	321-

<p>2. Language should be polished.</p>	<p>Agree with the reviewer. We had invited a very good language and grammar editor to modify the manuscript language. There were many changes and they were highlighted in YELLOW. And we have checked them carefully and corrected them.</p>	<p>Full text</p>	
<p>3. Five electronic databases (PubMed, Web of Science, Cochrane Central Register of Controlled Trials, Embase and CINAHL) should be searched from inception to XX day (e.g. 31) January 2022.</p>	<p>Agree with the reviewer. We have added the day of electronic database search in the Abstract-Methods and analysis in the revised manuscript. After modified “electronic databases (.....) will be comprehensively searched from their inception to January 26, 2022 to identify.....”.</p>	<p>3</p>	<p>52</p>
<p>4. The methodological quality assessment tool, the Effective Public Health Practice Project (EPHPP), should add the original reference or web sites.</p>	<p>Agree with the reviewer. The original reference of the methodological quality assessment tool as follows has been added: 50 Thomas B, Ciliska D, Dobbins M, et al. A process for systematically reviewing the literature: providing the research evidence for public health nursing interventions. <i>Worldviews on evidence-based nursing</i> 2004;1(3):176-84. doi: 10.1111/j.1524-475X.2004.04006.x</p> <p>As a matter of fact, this is the most frequently cited reference on EPHPP in many systematic reviews (e.g., ①Paraskeva N, Guest E, Lewis-Smith H, Harcourt D. Assessing the effectiveness of interventions to support patient decision making about breast reconstruction: A systematic review. <i>Breast (Edinburgh, Scotland)</i>. 2018;40:97-105; ②Song D, Yu D, Li P, Lei Y. The effectiveness of physical exercise on cognitive and psychological outcomes in individuals with mild cognitive impairment: A systematic review and meta-analysis. <i>International journal of nursing studies</i>. 2018;79:155-64.).</p> <p>The following corresponding reference in the original manuscript</p>	<p>19</p>	<p>583-585</p>

	was deleted due to indirect citation: [51]Jackson N, Waters E.Criteria for the systematic review of health promotion and public health interventions[J].Health promotion international. 2005,20(4):367-74.		
Reviewer 3			
1. The authors should strive for a more succinct presentation style and more rigorous editing for English grammar, to increase the accessibility of this interesting work.	Agree with the reviewer. We had invited a very good language and grammar editor to modify the manuscript language. There were many changes and they were highlighted in YELLOW. And we have checked them carefully and corrected them.	Full text	
2. Strengths and limitations of the study: Page 4, line 67: This will be the first systematic review to investigate the all-round efficacy of web-based interventions for pregnant women with GDM. According to the authors, this is the first systematic review to investigate the efficacy of web-based interventions for pregnant women with GDM, but the relevant papers indicates that there have been previous systematic reviews of web-based interventions in pregnant women with diabetes,	Agree with the reviewer. First , in response to the editor's request of 'The novelty, aims, results or expected impact of the study should not be summarised in the Strengths and limitations section', we have removed the sentence (This will be the first systematic review to investigate the all-round efficacy of web-based interventions for pregnant women with GDM.) on line 67 in the original manuscript. Moreover , Please allow us to explain that what we wanted to express in this sentence is that it is the first systematic review to investigate "the all-round efficacy" of relevant topics. In fact, with the exception of glycemic control and maternal and infant clinical outcomes, the effectiveness of web-based interventions on other outcomes in pregnant women with GDM has received little attention in relevant previous systematic reviews, which had been clarified in the original manuscript (Page 7, Line 173-174). Furthermore , compared to previous systematic reviews, another innovation of this study is conducting subgroup analyses based on the type of intervention format, interactivity, and technology to find an optimal web-based intervention regimen. However, given that this content is highly repetitive with one of the objectives of the study, we did not repeat it in the INTRODUCTION section, but instead added the word "innovatively" in the OBJECTIVES section to highlight it. Finally , we have revised the last sentence in the last paragraph of the INTRODUCTION section and added some contents to further elaborate on why this systematic review is necessary to be conducted. Before modified "Nevertheless, to the best of our knowledge, a systematic review evaluating the all-round efficacy of web-based interventions for pregnant women with GDM is still	8	191

<p>please further elaborate on the differences between your study and previous studies in the background section.</p>	<p>lacking.”. After modified “Therefore, it is necessary to conduct a new systematic review that focuses on web-based technologies and includes evidence from all existing studies to comprehensively evaluate the effectiveness of web-based interventions in pregnant women with GDM, so as to provide scientific and conclusive evidence for future clinical practice.”.</p>	<p>7</p>	<p>179-183</p>
<p>3. Introduction: Page 4, line 85: Incorrect citation format for references, it is recommended to modify according to the submission guidelines.</p>	<p>Thanks for the reviewer’s comment. We had originally modified the reference format according to the submission guidelines, but the editor office returned the revised manuscript and asked that “For better visibility, please cite the reference citations with squared bracket”. Therefore, the reference citation format in the revised manuscript is still in square bracket.</p>		
<p>4. Introduction: Page 4, line 84/90: Diabetes Federation indicated that GDM affected 14.2% of pregnancies worldwide in 2013 and resulted in more than 20 million live births [1]. According to the global statistics, the incidence of GDM in Southeast Asia, North America, Europe, Africa and Middle East had ranged from 7.5% to 27% up to 2019 [3]. This reference are referring to papers in 2013 or 2019, latest data needs to be updated. Please consider rewording.</p>	<p>Agree with the reviewer. We have updated the data on GDM prevalence to the latest one. Before modified “A survey conducted by the International Diabetes Federation indicated that GDM affected 14.2% of pregnancies worldwide in 2013 and resulted in more than 20 million live births [1]. According to the global statistics, the incidence of GDM in Southeast Asia, North America, Europe, Africa and Middle East had ranged from 7.5% to 27% up to 2019 [3].”. After modified “According to the International Diabetes Federation, the worldwide prevalence of hyperglycemia in pregnancy ranged from 8.6% to 28.0% up to 2021, which affected 21.1 million of live births (16.7%), with the majority of the cases presenting with GDM (80.3%).2”.</p> <p>Due to the need of content, a new reference as following has been added:</p> <p>2 International Diabetes Federation. IDF Diabetes Atlas. 10th ed. 2021. Available online: https://diabetesatlas.org/atlas/tenthedition (accessed on 17 February 2022).</p> <p>Deleted reference was showed below,</p> <p>[1]Guariguata L, Linnenkamp U, Beagley J, Whiting D, Cho N.Global estimates of the prevalence of hyperglycaemia in pregnancy[J].Diabetes research and clinical practice. 2014,103(2):176-85.</p> <p>[3]Atlas. ID. Prevalence of Gestational Diabetes Mellitus, 9th edition.2019.</p>	<p>4</p> <p>16</p>	<p>85-88</p> <p>441-442</p>

<p>5. Methods: Page 9, line 221: Pregnant women ≥ 18 years old with GDM... There is no information explaining that the reason or basis for the age restriction on pregnant women. In other words, the authors need to explain in the methods section why “≥ 18 years old” was as an inclusion criterion.</p>	<p>Agree with the reviewer. In the revised manuscript, we have added the following explanation as to why “≥ 18 years old” was chosen as an inclusion criterion: “Moreover, the present review is part of a research project aimed at developing a theoretically-informed and web-assisted behavior change intervention for pregnant adult women. Therefore, pregnant women ≥ 18 years old will be considered eligible in this study.”.</p>	9	217-220
<p>6. Methods: Page 9, line 225: Studies that included mixed types of diabetes mellitus (including GDM, type 1 diabetes and type 2 diabetes) will be considered as eligible... The authors demonstrate that this systematic review included mixed types of diabetes mellitus. It would be good to add some information in the methods section, how to do subgroup analysis of diabetes type when the original study was a mixed type of diabetes.</p>	<p>We strongly agree with the reviewer. Please allow us to first explain the contents of the original manuscript as follows. In the original manuscript, we wanted to express that studies that included mixed types of diabetes mellitus but reported the GDM subgroup’s outcomes separately will be considered as eligible. This means that for studies that included mixed types of diabetes mellitus, only the data of GDM subgroup will be extracted for analysis in our review, while the data of pregnant women with type 1 diabetes or type 2 diabetes will not be used. However, given our inappropriate language expression here will cause ambiguity, we have modified the content accordingly. Before modified “Studies that included mixed types of diabetes mellitus (including GDM, type 1 diabetes and type 2 diabetes) will be considered as eligible as well, when the outcomes in GDM subgroup were reported separately.”. After modified “Studies that included mixed types of diabetes mellitus (including GDM, type 1 diabetes, and type 2 diabetes) but reported the data specific to GDM separately will be included as well.”.</p>	9	216-217
<p>7. Methods: Page 10, line 245: ...self-care behaviors (mainly</p>	<p>Thanks for the reviewer’s comments. Please allow us to first explain that in the original manuscript, we had made some illustration about how we will synthesize the outcomes in the METHODS AND ANALYSIS section-Data analysis-Data synthesis; for better</p>		

<p>including the compliance with SMBG, healthy diet and physical activity)... In addition to HbA1c, the authors demonstrate some subjective outcomes such as healthy diet, physical activity. For example, physical activity, as far as I know, can be evaluated by different indicators such as the number of steps, exercise intensity and duration, so how do you synthesize results when original researches use different evaluation systems to evaluate the effect.</p>	<p>understanding, we have made some modification for these contents in the revised manuscript. Before modified “A meta-analysis will be conducted when there are sufficient studies (no less than two studies) investigating the same outcome using similar effect measures. A narrative approach will be applied for studies that could not be quantitatively synthesized.”. After modified “A meta-analysis will be conducted when there are sufficient studies (no less than two studies) with available data investigating the same outcome by similar effect measures. For outcomes that could not be quantitatively synthesized due to insufficient studies, unavailable data, or high heterogeneity of effect measures, a narrative approach will be applied for analysis.”.</p> <p>Take the following example for illustration: Suppose there are four RCTs that assessed the effectiveness of web-based interventions on physical activity in pregnant women with GDM. Two of them provide detailed outcome data of the number of steps for both the intervention and control groups, one study only reports the difference on the number of steps between the intervention and control groups with a P value, and the other study provides outcome data of exercise duration. We will first provide an overall description of the effectiveness of web-based interventions on physical activity for pregnant women with GDM based on the results of the four RCTs, then clarify that only two studies are suitable for meta-analysis with regard to physical activity and provide the result of meta-analysis, and finally qualitatively synthesize the results of the remaining two studies.</p> <p>Moreover, a similar data synthesis strategy has already been applied in some published peer-reviewed systematic reviews and meta-analyses (eg., ①Chen L, Wang F, Li J, et al. <i>Use of music to enhance sleep and psychological outcomes in critically ill patients: a protocol for a systematic review and meta-analysis. BMJ open</i> 2021; ②Guo P, Li P, Zhang X, et al. <i>The effectiveness of aromatherapy on preoperative anxiety in adults: A systematic review and meta-analysis of randomized controlled trials. International journal of nursing studies</i> 2020), demonstrating that our data synthesis strategy (using a narrative approach to analysis results when outcomes cannot be quantitatively synthesized in meta-analysis) is reasonable.</p>	12	321-324
<p>8. Methods: Page 11, line 280:...two authors judges an publication to be potentially eligible for inclusion. It would be interesting to know here if the two authors independently performed data search and</p>	<p>Thanks so much for the reviewer’s comments. Please allow us to first explain that the contents of “the two authors independently performed electronic database search, study selection, data extraction, and quality assessment” had been described in the relevant subsections in the original manuscript. However, given the description of the relevant contents in the original manuscript were not clear enough, we have added the initials of the authors'/reviewers' names after "two authors/reviewers" and the "senior author/reviewer" in the revised manuscript. There are six amendments, and all of them have been highlighted in YELLOW.</p>	10 10	262-263 270-

extraction (and quality assessment, as well).		11	271
		11	276
		11	284
		12	285
			309
<p>9. Methods: Page 14, line 343: According to the Cochrane Handbook, a p value ≥ 0.1 of the χ^2 test or a I^2 value $\leq 50\%$ are regarded as no observed heterogeneity... The Cochrane has established new different levels of inconsistency using the I^2, I encourage authors to read the updated Cochrane manual and include these in their manuscript.</p>	<p>Agree with the reviewer. We have read the updated Cochrane manual and modified the standard of I^2 value correspondingly in the METHODS AND ANALYSIS section-Data analysis-Assessment of heterogeneity in the revised manuscript. Before modified "According to the Cochrane Handbook, a p value ≥ 0.1 of the χ^2 test or a I^2 value $\leq 50\%$ are regarded as no observed heterogeneity [56]. We will use a fixed-effect model for analysis if the data are not significantly heterogeneous.". After modified "According to the Cochrane Handbook, an I^2 value of 0-40 % represents insignificant heterogeneity; 30%-60% represents moderate heterogeneity; 50%-90% represents substantial heterogeneity; >75 % represents high heterogeneity.56 We will use a fixed-effect model for analysis if there is no substantial heterogeneity (p value ≥ 0.1 of the χ^2 test and a I^2 value $\leq 50\%$).".</p> <p>Due to the need of content, a new reference as following has been added:</p> <p>56 Higgins JPT, Thomas J, Chandler J, et al. Cochrane Handbook for Systematic Reviews of Interventions version 6.3 (updated February 2022). Cochrane, 2022. Available from www.training.cochrane.org/handbook2022.</p>	13	338-342
		20	600-602
Reviewer 4			
<p>1. In the introduction section, the first four paragraphs need appropriate simplification.</p>	<p>Agree with the reviewer. We have simplified the first four paragraphs appropriately in the revised manuscript.</p> <p>The first paragraph: Before modified "..... A survey conducted by the International Diabetes Federation indicated that GDM affected 14.2% of pregnancies worldwide in 2013 and resulted in more than 20 million live births [1]. According to the global statistics, the incidence of GDM in Southeast Asia, North America, Europe, Africa and Middle East had ranged from 7.5% to 27% up to 2019 [3]. With the introduction and wide application of a more rigorous diagnostic criteria, the rate of GDM is anticipated to grow even further [4], which will potentially challenge". After modified "....., which is initially diagnosed in the second or third trimester of pregnancy and features as hyperglycemia of variable severity without overt pregestational diabetes.1 According to the International Diabetes Federation, the worldwide prevalence of hyperglycemia in pregnancy ranged from 8.6% to 28.0% up to 2021,</p>	4	83-88

	<p>which affected 21.1 million of live births (16.7%), with the majority of the cases presenting with GDM (80.3%).² which can potentially challenge”. There is a need to clarify that we updated the data and corresponding reference on GDM prevalence according to the suggestion from Reviewer 3 in this paragraph.</p> <p>The second paragraph: Before modified “GDM is initially diagnosed in the second or third trimester of pregnancy and features as hyperglycemia of variable severity without overt pregestational diabetes [6]. Although the pathogenesis of GDM has not been fully elucidated, the most plausible interpretation is the lack of sufficient insulin secretion matching with the increased insulin tolerance, which results in insulin resistance and finally causes GDM [6]. The potential short-term impacts for mother include increased prematurity, shoulder dystocia, stillbirth, postpartum hemorrhage and infectious complications [9]. Worse still, although GDM is characterized as a transient condition and will resolve within a short period”. After modified “ The potential short-term impacts for mothers include shoulder dystocia, stillbirth, and infectious complications.⁷ Worse still, although GDM will resolve within a short period”.</p> <p>The third paragraph: Before modified “ many fetal and neonatal complications include congenital anomalies, death in uterus, macrosomia, special care admission and so on. Furthermore, offsprings who exposure to hyperglycemia in the uterine has an increased risk of obesity, early onset metabolic syndrome and hypertension”. After modified “ many fetal and neonatal complications includes macrosomia, and so on. Furthermore, offsprings who are exposed to hyperglycemia when in the uterus have an increased risk of obesity and metabolic syndrome”.</p> <p>The fourth paragraph: Before modified “ Actually, these interventions are the mainstay of therapy for GDM and may suffice for most patients, as studies have demonstrated that around 65%-90% of the pregnant women diagnosed with GDM can maintain euglycemia through lifestyle changes alone [15, 16]. Pharmacotherapies (oral hypoglycemic agents and insulin) will be added when non-pharmacological regimens fail to affect. ”. After modified “Actually, these interventions are the mainstay of therapy for GDM and may suffice for most pregnant women with GDM (65%–90%).^{13 14} When non-pharmacological regimens fail to affect, pharmacotherapies (oral hypoglycemic agents and insulin) will be added. ”.</p>	5	96-99
		5	106-109

		5	117-119
<p>2. Line 67, the word 'all-round' in this protocol may not cover all the outcomes and should be deleted.</p>	<p>Agree with the reviewer. First, in response to the editor's request that "The novelty, aims, results, or expected impact of the study should not be summarised in the Strengths and limitations section", we have removed the sentence (This will be the first systematic review to investigate the all-round efficacy of web-based interventions for pregnant women with GDM.) on line 67 in the original manuscript. Moreover, we also deleted the word 'all-round' in the other three parts of the protocol and modified the relevant expressions appropriately:</p> <p>(1) Before modified "This systematic review and meta-analysis aims to determine the all-round efficacy of ". After modified "This systematic review and meta-analysis aims to comprehensively investigate the multidimensional effectiveness of ".</p> <p>(2) Before modified "a systematic review evaluating the all-round efficacy of web-based interventions". After modified "a new systematic review that focuses on web-based technologies and includes evidence from all existing studies to comprehensively evaluate the effectiveness of web-based interventions".</p> <p>(3) Before modified "this systematic review will based on to examine the all-round efficacy of web-based interventions ". After modified "this paper presents a protocol for a systematic reviewto comprehensively investigate the multidimensional effectiveness of web-based interventions among pregnant women with GDM.".</p>	3 7 14	45 179-182 372
<p>3. The authors used 'efficacy' or 'effectiveness' in different parts of this protocol (eg. line 67, 165, 190, 195, 198, 367...), which should be kept consistent with the objective of the study.</p>	<p>Agree with the reviewer. We have altered all of the 'efficacy' to 'effectiveness' based on the objective of this review. There were three changes and all these modifications have been highlighted in YELLOW in the revised manuscript.</p> <p>(1) Before modified "This systematic review and meta-analysis aims to determine the all-round efficacy of ". After modified "This systematic review and meta-analysis aims to comprehensively investigate the multidimensional effectiveness of ".</p> <p>(2) Before modified "a systematic review evaluating the all-round efficacy of web-based interventions". After modified "a new systematic review that focuses on web-based technologies and includes evidence from all existing studies to comprehensively</p>	3	45 179-

	<p>evaluate the effectiveness of web-based interventions”.</p> <p>(3) Before modified “this systematic review will based on to examine the all-round efficacy of web-based interventions ”. After modified “this paper presents a protocol for a systematic reviewto comprehensively investigate the multidimensional effectiveness of web-based interventions among pregnant women with GDM.”.</p>	7	182
		14	372
<p>4. Please conduct a thorough proofread of the text and correct any spelling and grammar errors that you identify (eg. line 242, 307, 368, 381...)</p>	<p>Agree with the reviewer. We had invited a very good language and grammar editor to modify the manuscript language. There were many changes and they were highlighted in YELLOW. And we have checked them carefully and corrected them.</p>	Full text	
<p>5. Study selection: please add the initials of the authors' names after "two authors" and the "senior reviewer".</p>	<p>Agree with the reviewer. We have added the initials of the authors' names after "two authors" and the "senior reviewer". There are six amendments, and all of them have been highlighted in YELLOW.</p>	10 10 11 11 11 12	262-263 270-271 276 284 285 309
<p>6. Discussion: why and how the authors choose the primary and secondary outcomes, and the three subgroups analyses need to be explained.</p>	<p>Agree with the reviewer. We have added explanations correspondingly in the DISCUSSION section in the revised manuscript as requested by reviewers. Since the first paragraph's content of the DISCUSSION section of the original manuscript is divided into three parts after being revised, we added some additional contents that were not requested by the reviewer in the first paragraph of the DISCUSSION section in the revised manuscript to make the content more complete and smooth.</p> <p>Before modified “This paper presents a protocol for a systematic review of literature investigating the effectiveness of web-based interventions among pregnant women with GDM. To this end, this systematic review will based on all existing evidence from RCTs and CCTs to examine the all-round efficacy of web-based interventions on the improvements of maternal glycemic control, behavioral outcomes, cognitive and attitudinal outcomes, mental health, maternal and neonatal clinical outcomes, as well as medical service utilisation and costs. The conclusion of this study will</p>		

	<p>provide comprehensive evidence on whether web-based interventions should be widely recommended for GDM management in future clinical practice. Moreover, the findings of three subgroup analyses regarding intervention format, interactivity and technology will enlighten health professionals on the development of an optimal web-based interventions regimen, so as to bring maximum benefits to pregnant women with GDM, clinicians and other relevant personnel.”.</p> <p>After modified “GDM has been demonstrated to be closely associated with considerable maternal and neonatal short-term and long-term complications.^{5 7 9 11} The traditional mode of GDM management is effective but requires intensive clinical input.^{15 18} In recent years, web-based interventions have become increasingly popular in the field of GDM management due to making treatments more accessible and affordable.^{16 31 33} However, the benefit of web-based interventions for pregnant women with GDM is controversial, ^{15 27 32} and the existing systematic reviews ^{36 37} also did not reach a consensus on this issue, which leads to confusion for clinical decision-making and restricts the application of these interventions. Hence, this paper presents a protocol for a systematic review based on all existing evidence from RCTs and CCTs to comprehensively investigate the multidimensional effectiveness of web-based interventions among pregnant women with GDM.</p> <p>It is well known that maternal hyperglycemia of variable severity is the most important clinical manifestation of GDM and the pathological basis of related complications.¹ To this end, maternal glycemic control will be used as the primary outcome in this review, reflected by four commonly measured parameters (HbA1c, FBG, 1hBG, and 2hBG). Meanwhile, in order to elevate the comprehensive understanding of the effectiveness of web-based interventions, extensive secondary outcomes will also be assessed, including maternal behavioural outcomes, cognitive and attitudinal outcomes, mental health, maternal and neonatal clinical outcomes, as well as medical service utilisation and costs. The conclusions of this study will provide objective evidence on whether web-based interventions should be widely recommended for GDM management in future clinical practice.</p> <p>In addition, three subgroup analyses regarding intervention format (personalized and nonpersonalized), interactivity (interactive and non-interactive), and technology (such as mobile applications and websites) will be performed. It is anticipated that the findings of subgroup analyses can enlighten health professionals on developing and implementing an optimal web-based intervention regimen for pregnant women with GDM and bring maximum benefits to the targeted crowd, clinicians, and other relevant personnel.”.</p>	13-15	362-391
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VERSION 2 – REVIEW

REVIEWER	Emma Motrico Universidad Loyola Andalucia, Psychology
REVIEW RETURNED	10-Jun-2022

GENERAL COMMENTS	It is a please to review of the revised version of the manuscript titled: Web-based interventions for pregnant women with gestational diabetes mellitus: a systematic review and meta-analysis protocol. I have checked the comments and the answers of the authors and I considere that the authors have properly responded to the reviewers.
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REVIEWER	Ren Lihua Peking University
REVIEW RETURNED	15-Jun-2022

GENERAL COMMENTS	Accept as submitted.
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