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Cupping Therapy for Anemia in Women: A Scoping Review

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Abstract

Anemia remains a major public health problem among women of reproductive age worldwide, particularly in developing countries such as Indonesia. Limitations of conventional anemia management, including adherence issues and side effects of iron supplementation, have encouraged interest in complementary therapies such as wet cupping therapy (WCT). This study aimed to systematically map existing empirical evidence on the effects of wet cupping therapy on hemoglobin levels and hematological parameters in women through a scoping review approach. The review was conducted following the PRISMA-ScR guidelines. Literature searches were performed across multiple databases, including PubMed, Scopus, Google Scholar, and institutional repositories, resulting in 312 identified records. After screening and eligibility assessment, six studies published between 2016 and 2023 were included. The selected studies employed diverse designs, including experimental clinical trials, quasi-experimental, pre–post, cross-sectional, prospective cohort, and retrospective observational studies, with sample sizes ranging from 17 to 364 female participants. Across all studies, wet cupping therapy was associated with either maintenance or improvement of hemoglobin levels, as well as favorable changes in iron, total iron-binding capacity, and other biochemical parameters. No evidence indicated that WCT caused anemia when administered appropriately. Overall, the findings suggest that wet cupping therapy may serve as a safe and potentially beneficial complementary intervention for improving hematological status in women. However, further research using randomized controlled trials and standardized intervention protocols is required to establish its clinical effectiveness and inform evidence-based practice.

Introduction

Anemia is a widespread medical condition characterized by a reduced concentration of hemoglobin in the blood, which impairs its capacity to transport oxygen efficiently throughout the body (Anand, 2008). Globally, anemia represents a significant public health concern, particularly among women of reproductive age, due to blood loss associated with menstruation, pregnancy, and childbirth. According to the World Health Organization (WHO), approximately 30% of women aged 15 to 49 experienced anemia in 2019, underscoring the magnitude of this issue.

Owais et al. (2021) and Sunuwar et al. (2020) said that In Indonesia, the prevalence of anemia among women of reproductive age has shown a concerning upward trend. Data from the Basic Health Research (Riskesdas) indicate that 32% of women in this group were anemic, and among women who had previously been pregnant, the prevalence reached 24.3%. Regional data highlight more alarming figures; for instance, in West Java Province, the prevalence of

anemia among women in 2018 was 41.5%, while among adolescents aged 15–24 years, it reached 32%. These statistics emphasize the persistent burden of anemia among young women in Indonesia.

Recent local data further illustrate the severity of the problem. In 2021, 68.3% of adolescent girls in Indonesia were reported to be anemic (Patimah et a., 2023; Oddo et al., 2022; Wambes et al., 2025). Specifically, in Bekasi Regency, 8,861 adolescent girls were identified as anemic, including 346 with severe anemia, 3,268 with moderate anemia, and 5,247 with mild anemia. In response, the local government initiated programs to distribute iron supplements to 124,000 adolescent girls. Moreover, in 2023, the prevalence of anemia among pregnant women in Bekasi reached approximately 50.5%, highlighting the continued vulnerability of women during reproductive years.

The consequences of anemia extend beyond physiological deficiencies (Yadav, D., & Chandra, 2011; Pollitt, 2001). Women affected by anemia may experience fatigue, reduced productivity, impaired cognitive function, and increased risk of pregnancy complications. Conventional management strategies typically involve iron supplementation and health education, which are effective to a certain degree but often face challenges related to adherence, side effects, and accessibility (Serati & Torella, 2019; Galloway & McGuire, 1994). These limitations have prompted interest in complementary and alternative therapies, including cupping therapy.

Cupping therapy, also known as hijama in Arabic, is an ancient practice that involves suction on the skin to remove blood or interstitial fluids (Sajid, 2016; Elassal et al., 2025). Traditionally, it is performed by making small skin incisions and drawing blood, a method believed to detoxify the body and restore balance. Scientifically, cupping is described as applying negative pressure through suction cups on the skin, which may improve circulation, relieve stagnation, and facilitate the removal of toxins (Al-Bedah et al., 2016; Chen, 2024).

Lee et al. (2008) and Abbasi & Najafi, (2023) said that, the potential mechanism of cupping therapy in anemia management is particularly interesting. Wet cupping may induce localized hypoxia in the skin, leading to the release of Hypoxia-Inducible Factor-1α (HIF-1α), a protein that regulates oxygen homeostasis. HIF-1α stimulates the production of erythropoietin, a hormone responsible for red blood cell formation, thereby potentially increasing hemoglobin levels (Hadi, 2022). Supporting this mechanism, Rahmadi (2018) demonstrated that cupping therapy did not reduce hemoglobin levels but instead increased them, suggesting a physiological benefit for women at risk of anemia.

Despite these promising mechanisms, there are reports indicating that excessive or improperly administered cupping may have adverse effects. Case studies have documented significant reductions in hemoglobin, serum iron, and ferritin levels following prolonged cupping, with patients experiencing fatigue, dyspnea on exertion, and pallor. In some instances, hospitalization and blood transfusions were required after up to 30 cupping sessions over two months (Mustafa & Sheiko, 2020; Kim et al., 2012). These contrasting findings underscore the importance of assessing both the safety and efficacy of wet cupping therapy in women.

Empirical evidence also suggests beneficial effects of wet cupping on hematological parameters in anemic individuals. For example, Syaifullah et al. (2021) found that wet cupping could increase hemoglobin and iron levels while reducing total iron-binding capacity in patients with anemia. These studies indicate that, when performed appropriately, wet cupping may serve as a complementary therapy to conventional interventions for anemia management.

Given the growing interest in cupping therapy and the mixed findings regarding its safety and efficacy, a scoping review is a suitable methodological approach to map the current evidence base. Scoping reviews allow for a systematic exploration of existing studies, identification of research gaps, and synthesis of findings without attempting to establish causal relationships

(AlBedah et al., 2011). This approach is particularly valuable in complementary therapies, where heterogeneity in intervention protocols and study designs is common.

Therefore, the aim of this scoping review is to systematically map the existing empirical evidence on wet cupping therapy for anemia in women, examining study objectives, designs, interventions, and outcomes. This review seeks to identify patterns, highlight methodological limitations, and inform future research priorities. Rather than establishing clinical effectiveness, the review intends to provide a comprehensive overview of the current state of knowledge to guide more rigorous future investigations into the potential role of cupping therapy in anemia management among women.

Methods

Research Design and Strategy

This study used a scoping review approach to map empirical evidence related to the effects of cupping therapy on hemoglobin levels and hematological parameters in women. The research strategy was designed to systematically identify, select, and synthesize relevant studies, taking into account variations in design, population, intervention, and measured outcomes. The six reviewed studies exhibited a diversity of research designs, ranging from experimental clinical trials with pretest–posttest controls (Sapada & Asmalinda, 2019), quasi-experimental (Syaifulloh, 2020), pre-post uncontrolled (Rahmadi, 2018), cross-sectional comparative (Rehman et al., 2023), prospective experimental cohort (Alshareef et al., 2021), to retrospective observational pre-post studies (Mourad & Al-Jaouni, 2016). These differences reflect variations in data collection methods, sample sizes, and controls for variables that could influence intervention outcomes. In conducting this scoping review, a literature search was conducted using keywords related to "cupping therapy," "wet cupping," "anemia," and "hemoglobin" in international and national scientific databases. The search strategy adhered to the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) guidelines, which included study identification, screening, eligibility determination, and data extraction. The primary focus was on peer-reviewed studies addressing the effects of cupping therapy on hemoglobin and hematological parameters in women, including adults, adolescents, and patients with clinical anemia. Data analysis in this scoping review was conducted narratively, emphasizing comparisons between studies based on design, population, type of intervention, duration, frequency, and measured outcomes, such as hemoglobin, iron (Fe), total iron-binding capacity (TIBC), and other biochemical parameters. This strategy enabled researchers to synthesize heterogeneous evidence and identify trends, research gaps, and areas requiring further study. Thus, this scoping review not only provides a summary of the evidence, but also forms the basis for further, more controlled studies focused on the clinical.

Article Selection and Screening Process

The selection and screening of articles for this scoping review followed the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) framework. The process began with a systematic literature search across multiple electronic databases, including PubMed, Scopus, Google Scholar, institutional repositories, and ResearchGate as a supplementary source for grey literature. Keywords were carefully selected to capture studies relevant to cupping therapy (including wet cupping and Hijama) and its effects on hemoglobin and other hematological parameters in women. Boolean operators ("AND," "OR") and Medical Subject Headings (MeSH) were applied to optimize search sensitivity and specificity. During the initial identification stage, 312 articles were retrieved from the databases. Titles and abstracts were screened for relevance, focusing on studies that examined cupping therapy in women with either clinical anemia or healthy populations and reported outcomes related to hemoglobin or hematological/biochemical parameters. Studies

that were not peer-reviewed, published outside the 2016–2023 timeframe, or not available in English or Indonesian were excluded. This screening reduced the pool to 42 articles for full-text review.

The full-text assessment involved evaluating each article against the pre-defined inclusion and exclusion criteria. Articles were included if they were original research studies involving female participants, applied cupping therapy as the intervention, and reported hemoglobin or other hematological outcomes. Exclusion criteria comprised review articles, meta-analyses, commentaries, raw data reports, research notes, and unpublished manuscripts. Following this rigorous eligibility check, six articles met all criteria and were included in the final analysis. The six selected studies originated from Indonesia (n = 3), Saudi Arabia (n = 2), and Pakistan (n = 1), reflecting the geographical diversity of research on wet cupping therapy. Study designs included experimental clinical trials with pretest–posttest control (Sapada & Asmalinda, 2019), quasi-experimental (Syaifulloh, 2020), pre-post without control (Rahmadi, 2018), cross-sectional comparative (Rehman et al., 2023), prospective experimental cohort (Alshareef et al., 2021), and retrospective observational pre-post (Mourad & Al-Jaouni, 2016). These designs were systematically evaluated for quality and relevance, ensuring that each study contributed meaningful data regarding the effects of cupping therapy on hemoglobin and related hematological parameters in women. The article selection and screening process ensured that only high-quality, relevant studies were included, providing a reliable evidence base for analyzing the safety, efficacy, and hematological effects of wet cupping therapy in female populations. This process not only ensured methodological rigor but also highlighted research gaps, such as the need for larger randomized controlled trials and standardized intervention protocols, which will inform future investigations.

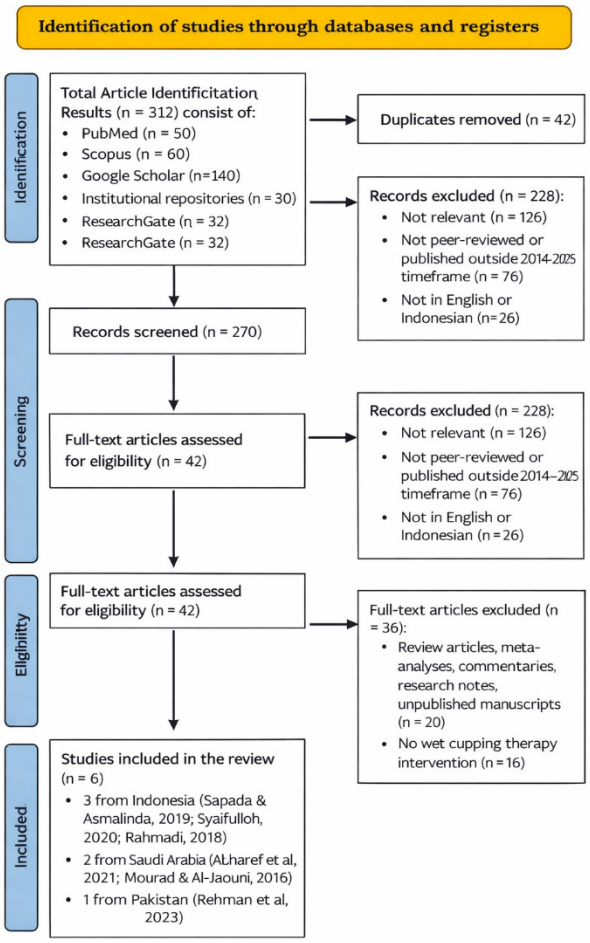

Figure 1. PRISMA Flowchart of the Study Selection Process

Search Strategy and Information Sources

The literature search for this scoping review was conducted systematically across multiple electronic databases to capture comprehensive evidence on cupping therapy for anemia in women. The primary sources included PubMed, Scopus, and Google Scholar, which were selected for their coverage of peer-reviewed journals in medicine, complementary and alternative therapies, and public health. These databases allowed identification of studies conducted in various countries, including Indonesia, Saudi Arabia, and Pakistan, reflecting the geographical diversity of research on wet cupping therapy (WCT).

Table 1. Literature Search Strategy for Studies on Cupping Therapy for Anemia in Women

Aspect	Details
Databases Searched	PubMed, Scopus, Google Scholar, institutional repositories (national and university repositories), and ResearchGate (used as a supplementary source for grey literature when full-text peer-reviewed articles were limited).
Search Method	A systematic electronic search using Boolean operators ("AND", "OR") to combine key concepts related to cupping therapy, anemia, and hematological outcomes. Medical Subject Headings (MeSH) were applied where available to enhance search sensitivity and specificity, particularly in PubMed and Scopus.
Keywords Used	anemia AND (cupping therapy OR wet cupping OR hijama) AND hemoglobin AND (hematological parameters OR iron OR TIBC) AND women
Keyword Selection Process	Keywords were identified through iterative discussion among the researchers, informed by preliminary screening of relevant articles. Both clinical terms (e.g., anemia, hemoglobin) and intervention-related terms (e.g., wet cupping, hijama) were included to ensure comprehensive coverage of studies addressing hematological effects of cupping therapy in women.
Search Limits	Peer-reviewed original research articles published between 2016 and January 2023, written in English or Indonesian, involving female participants, and reporting outcomes related to hemoglobin or other hematological/biochemical parameters. Review articles, meta-analyses, commentaries, research notes, raw data reports, and unpublished manuscripts were excluded.
Articles Identified	A total of 312 records were initially identified across all databases. After screening and eligibility assessment following the PRISMA-ScR framework, 6 studies met the inclusion criteria and were included in the final scoping review.
Study Designs Captured	Experimental clinical trial with pretest–posttest control group (1 study), quasi-experimental (1 study), pre–post without control (1 study), cross-sectional comparative (1 study), prospective experimental cohort (1 study), and retrospective observational pre–post (1 study).
Population Focus	Female participants, including adult women, adolescent girls, healthy women, and women diagnosed with anemia. Sample sizes ranged from 17 to 364 participants, reflecting both small-scale clinical studies and larger observational investigations.
Intervention Captured	Wet cupping therapy (WCT), including Hijama, applied in clinical or controlled settings. Details on duration, frequency, and number of cupping points varied across studies, but all interventions involved bloodletting cupping techniques.

Outcomes Captured	Primary outcomes included hemoglobin (Hb) levels. Secondary outcomes comprised iron (Fe), total iron-binding capacity (TIBC), and broader hematological and biochemical parameters such as lipid profile, blood glucose, uric acid, and other blood indices.

Overall, the applied search strategy ensured methodological rigor by balancing sensitivity and specificity, allowing the identification of studies that were directly aligned with the objectives of this scoping review. By integrating multiple databases with both international and national coverage, the approach minimized the risk of publication bias and enabled the inclusion of evidence from regions where wet cupping therapy is commonly practiced. The structured screening and eligibility assessment facilitated the selection of studies that not only addressed hemoglobin outcomes but also provided insight into broader hematological and biochemical effects. This strategy ultimately supported a comprehensive mapping of existing empirical evidence on wet cupping therapy in women and highlighted variations in study design and outcome reporting that are important for interpreting the findings and guiding future research.

Results and Discussion

Cupping therapy, particularly wet cupping, has gained attention as an alternative or complementary intervention for improving hematological parameters, including hemoglobin levels, in women with anemia. Various studies have investigated its effects on different populations, ranging from healthy women to patients with clinical anemia, using diverse study designs such as quasi-experimental, pre-post, and prospective cohorts. These studies also differ in their intervention protocols, including the type of cupping applied, the number of sessions, and the treatment duration. To provide a comprehensive overview of the existing evidence, Table 5 summarizes the key characteristics of relevant studies, highlighting the study objectives, design, population, cupping intervention details, and the outcomes measured. This summary allows for a clear comparison of the methodological approaches and findings, serving as a foundation for understanding the potential effectiveness and clinical implications of cupping therapy in addressing anemia among women.

Table 2. Summary of Study Characteristics Regarding Cupping Therapy in Women with Anemia

Title and Authors (Year)	Country	Study Objective	Study Design	Female Population / Sample Size	Cupping Intervention (Type, Duration, Frequency)	Measured Outcomes
Pengaruh wet cupping terhadap peningkatan kadar hemoglobin (Sapada & Asmalinda, 2019)	Indonesia	To determine the effect of wet cupping on increasing hemoglobin levels. The study aimed to see whether wet cupping could significantl	Experimental clinical trial with pretest–posttest with control group design.	52 adult women who met inclusion/exclusion criteria.	Wet cupping performed at Clinical Cupping Ibnu Sina Palembang over 30 days (exact frequency per week not specified in abstract).	Hemoglobin levels before and after intervention were compared; significant increase in Hb was observed after wet cupping.

		y raise hemoglobin levels in participants.				
Effect of Cupping Therapy on Biochemical and Hematological Parameters (Rehman et al., 2023)	Pakistan	To assess biochemical and hematological changes post cupping therapy	Cross-sectional comparative	210 female participants	Wet cupping; details not specified	Biochemical and hematological parameters
Wet cupping (Hijama) positively and significantly impacted multiple hematological parameters. (Alshareef et al., 2021)	Saudi Arabia	To examine hematological effects and anemia risk related to wet cupping	Prospective experimental cohort	17 female participants	Wet cupping (Hijama), details not specified	Hematological parameters (Hb, others)
Pengaruh Bekam Basah (Wet Cupping) Terhadap Kadar Hemoglobin, Fe, Dan Kadar Tibc (Total Iron Binding Capacity) Pada Penderita Anemia (Syaifulloh, 2020)	Indonesia	To evaluate effects of wet cupping on Hb, Fe, and TIBC in anemia patients	Quasi-experimental	21 female anemia patients	Wet cupping, duration and frequency not detailed	Hb, Fe, TIBC
Integrasi Kedokteran Islam dan Modern: Studi Bekam Terhadap Hemoglobin (Rahmadi, 2018)	Indonesia	To determine safe number of cupping points and relationship with Hb levels	Pre-post without control	32 female participants	Wet cupping, details on points and blood volume	Hb levels before and after therapy
The effect of wet cupping on blood haemoglobin level	Saudi Arabia	To evaluate whether wet cupping	Retrospective observational pre-post	364 female participants	Wet cupping, details unspecified	Hemoglobin levels pre and post-treatment

(Mourad & Al-Jaouni 2016)		causes anemia				

Across the six studies reviewed, several common characteristics can be identified. All studies focused on wet cupping therapy (WCT) as the primary intervention for women, targeting either the improvement of hemoglobin levels or the regulation of hematological and biochemical parameters. Despite differences in study design ranging from experimental clinical trials, quasi-experimental studies, cross-sectional comparative studies, prospective cohort studies, to retrospective observational designs each study measured hematological outcomes, most prominently hemoglobin (Hb). Furthermore, the interventions were generally administered in controlled settings by trained practitioners, and all studies reported either maintenance or an increase in hemoglobin levels, indicating that WCT is a safe intervention across various populations and study contexts.

The findings from these six studies align closely with the overarching focus of the review titled "Cupping Therapy for Anemia in Women: A Scoping Review." Each study contributes evidence regarding the potential role of WCT in addressing anemia or improving hematological status in women. For example, Sapada & Asmalinda (2019), Syaifulloh (2020), and Rahmadi (2018) specifically examined hemoglobin responses in women with or at risk of anemia, while studies by Rehman et al. (2023), Alshareef et al. (2021), and Mourad & Al-Jaouni (2016) demonstrated the broader regulatory effects of WCT on blood parameters in general female populations. Collectively, these studies provide both direct and indirect evidence that wet cupping may serve as a complementary therapy to improve hemoglobin levels and support overall hematological health in women, thereby directly addressing the aim of the scoping review.

Among the six reviewed articles, Sapada & Asmalinda (2019) stands out as particularly notable. This study employed a pretest–posttest clinical trial with a control group, providing a stronger experimental design compared to other studies, many of which were observational or pre-post without controls. With 52 adult women, the study clearly demonstrated a significant increase in hemoglobin levels following a 30-day intervention, offering robust evidence for the efficacy of WCT in improving hematological outcomes. Its structured approach, clear measurement of outcomes, and focus on hemoglobin changes in a defined population make it a key reference point in the context of wet cupping therapy for anemia in women.

Effects of Wet Cupping Therapy on Hemoglobin and Hematological Parameters in Women

The synthesis of findings from the six included studies provides detailed insight into the potential effects of wet cupping therapy (WCT) on hemoglobin and other hematological parameters in women (Abdelfattah et al., 2024; Mahdavi et al., 2012; Aslaner et al., 2022). Overall, the evidence suggests that WCT is a safe and potentially beneficial complementary therapy, capable of influencing both hemoglobin levels and broader biochemical and hematological markers. In the study by Sapada & Asmalinda (2019), 52 adult women underwent wet cupping sessions over a 30-day period at Clinical Cupping Ibnu Sina Palembang. The results showed a significant increase in hemoglobin levels after the intervention, highlighting that WCT can enhance hematological status even in women without pre-existing severe anemia. In addition to its effects on hemoglobin, WCT appears to influence other biochemical and hematological parameters. Rehman et al. (2023) assessed 210 female participants and found that wet cupping resulted in changes across several markers, including uric acid, cholesterol, HDL, LDL, blood glucose, total protein, urea, and creatinine.

Similarly, Alshareef et al. (2021) reported positive effects on multiple hematological parameters, including hemoglobin, in 17 female participants, suggesting that wet cupping may

help regulate systemic blood components in addition to increasing hemoglobin. These studies indicate that the mechanism of WCT likely involving removal of causative pathological substances (CPS) and cleansing of interstitial fluids may contribute to improvements in both hematological and biochemical outcomes. Several studies focused specifically on women with anemia, providing evidence that WCT can improve hemoglobin and iron-related parameters in clinical populations. Syaifulloh (2020) conducted a quasi-experimental study on 21 female anemia patients and observed increases in hemoglobin, iron (Fe), and total iron-binding capacity (TIBC) following wet cupping therapy. Rahmadi (2018) similarly investigated 32 female participants and found that hemoglobin levels increased in association with the number of cupping points and the volume of blood drawn, reinforcing the notion that the intervention can have measurable hematological benefits when applied appropriately.

The largest study included in the review, conducted by Mourad and Al-Jaouni (2016), examined 364 female participants using a retrospective observational pre-post design. This study confirmed that WCT did not cause anemia, as hemoglobin levels remained stable or increased following treatment. Collectively, these studies demonstrate that WCT is well-tolerated, can be administered safely across a range of populations, and may provide measurable improvements in hemoglobin and related hematological parameters. Despite these promising findings, the reviewed studies varied in design, sample size, and intervention protocols. While all implemented wet cupping interventions, differences in session frequency, duration, and technique may have influenced outcomes. Furthermore, the predominance of quasi-experimental, pre-post, and observational designs limits causal inference, as hemoglobin changes could be affected by confounding factors such as dietary intake, supplementation, or natural physiological fluctuations. Nevertheless, the consistency of hemoglobin improvement across multiple studies suggests that WCT holds potential as a complementary intervention for women, particularly those with anemia or other hematological deficiencies.

Safety and Hemoglobin Effects

Across the reviewed studies, wet cupping therapy (WCT) was consistently reported as safe and did not lead to reductions in hemoglobin levels among female participants (Soleimani et al., 2019; El et al., 2025; Karacaoglu et al., 2024). In fact, hemoglobin concentrations generally increased after intervention, suggesting that WCT may have a beneficial hematological effect. Sapada & Asmalinda (2019) conducted an experimental clinical trial involving 52 adult women, in which wet cupping was performed over 30 days at Clinical Cupping Ibnu Sina Palembang. The study found a significant rise in hemoglobin levels after the intervention, demonstrating that WCT can improve hematological status even in healthy women. This finding is particularly relevant for populations at risk of low hemoglobin, such as menstruating women. Similarly, Rahmadi (2018) observed that both the number of cupping points and the volume of blood extracted were positively associated with hemoglobin increases in 32 female participants. This suggests a potential dose-response relationship, where larger or more targeted cupping interventions may elicit greater hematological benefits. The study highlights that careful control of the procedure, including monitoring blood volume and point selection, is important to maximize efficacy while maintaining safety.

Additional studies reinforced these findings. Syaifulloh (2020) investigated 21 female anemia patients and reported increases not only in hemoglobin but also in iron (Fe) levels and total iron-binding capacity (TIBC) following WCT, indicating that the therapy may support iron homeostasis in anemic individuals. Alshareef et al. (2021) and Mourad & Al-Jaouni (2016) further confirmed that hemoglobin levels remained stable or increased in participants after WCT, with no adverse events related to anemia observed in either study. Notably, Mourad & Al-Jaouni's study included the largest sample size of 364 women, providing stronger population-level evidence that WCT is safe and does not compromise hemoglobin levels. These findings demonstrate that wet cupping, when administered by trained professionals under

controlled conditions, is a safe complementary intervention for women. It does not induce anemia and may even enhance hemoglobin levels, including among women with pre-existing anemia or during menstrual periods, when hemoglobin is typically lower. The consistency of these results across different countries, populations, and study designs reinforces the potential utility of WCT as a hematological intervention while underscoring the importance of standardized protocols and careful monitoring to ensure both safety and effectiveness.

Regulatory Effects on Biochemical and Hematological Parameters

In addition to its effects on hemoglobin, WCT was shown to influence a range of biochemical and hematological markers (Ginoudis et al., 2024; Jalil et al., 2022). Rehman et al. (2023) reported improvements in uric acid, cholesterol, HDL, LDL, blood glucose, total protein, urea, and creatinine following wet cupping in 210 female participants. Alshareef et al. (2021) found significant positive effects on multiple hematological indices, including red blood cell counts and hemoglobin. The proposed mechanism involves the removal of causative pathological substances (CPS) through plasma and interstitial fluid cleansing. Compared to dry cupping, WCT appears to provide broader systemic benefits due to its capacity to extract small amounts of blood while simultaneously reducing local inflammatory mediators, which may contribute to improvements in hematological and biochemical outcomes.

Limitations and Future Research

Although wet cupping was associated with increases in hemoglobin and improvements in hematological and biochemical parameters, several limitations remain. The absence of randomized controlled trials, variability in intervention protocols, and potential confounding factors reduce the strength of evidence and limit the ability to draw definitive conclusions. Future studies with rigorous experimental designs, standardized treatment protocols, and larger sample sizes are needed to confirm the efficacy and safety of WCT in women with anemia and to develop clinical guidelines for its implementation.

Conclusion

Based on the synthesis of six reviewed articles, wet cupping therapy (WCT) consistently demonstrates potential as a safe and beneficial complementary therapy in increasing or maintaining hemoglobin levels and improving hematological and biochemical parameters in women, both healthy and anemic. Although the study designs used are still dominated by quasi-experimental, pre-post, and observational studies with varying intervention protocols, all findings indicate no decrease in hemoglobin post-intervention and most report significant improvements. In addition to its effects on hemoglobin, WCT also contributes to the regulation of other parameters such as iron, TIBC, and biochemical profiles, indicating systemic benefits through mechanisms of interstitial fluid clearance and reduction of pathological mediators. Thus, WCT has the potential to be a supportive therapy in the management of anemia in women; however, further research with more robust experimental designs, standardized protocols, and control of contributing factors is needed to ensure clinical effectiveness and strengthen the basis for evidence-based practice recommendations.

Suggestion

The findings of this scoping review highlight a significant methodological gap in the existing literature. Future studies should prioritize randomized controlled designs, standardized cupping protocols, clearly defined anemia subtypes, and longer follow-up periods to determine both efficacy and safety.

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