

PSEUDOCYESIS AS A BIOPSYCHOSOCIAL PHENOMENON IN MIDWIFERY PRACTICE: A SYSTEMATIC REVIEW OF ETIOLOGY AND MANAGEMENT

Afifah Taufik^{1*}, Ambariani¹, Pujiati¹

¹Faculty of Health Sciences and Pharmacy, Gunadarma University, Depok, Indonesia

ABSTRAK

Article History:

Submitted: 07/05/2026

Accepted: 12/08/2026

Published: 11/09/2026

Keywords:

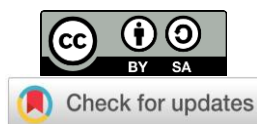
Pseudocyesis,
Psychosomatic,
Disorders,
Midwifery Care

Abstract:

Pseudocyesis is a rare psychosomatic phenomenon where women experience physical signs of pregnancy without a fetus, often triggered by infertility pressure, pronatalist culture, and loss trauma. This study aims to analyze the psychosomatic etiology, socio-cultural influences, and comprehensive obstetric management strategies. Using the Systematic Literature Review (SLR) method guided by PRISMA 2020, literature searches were conducted on five electronic databases within the range of 2015–2024, resulting in 15 inclusion articles from a total of 187 findings. Using a systematic literature review approach guided by PRISMA 2020, a systematic search was conducted across four electronic databases: Scopus, PubMed/MEDLINE, ScienceDirect, and Google Scholar for studies published between 2015 and 2024. Of 187 records initially identified, 15 studies met the eligibility criteria and were included in the final synthesis. The findings indicate that pseudocyesis is based on neuroendocrine dysregulation due to stress that suppresses dopamine and increases prolactin, triggering symptoms such as amenorrhea and galactorrhea. Psychologically, this condition acts as a defense mechanism against grief and the stigma of infertility, reinforced by cultural factors that demand proof of a woman's social status. In conclusion, obstetric management requires a holistic approach. Proof thru Ultrasonography (USG) must always be accompanied by psychological support (psychotherapy) and pharmacotherapy to prevent further mental trauma. Midwives play a crucial role in early detection and proper collaboration for psychiatric referrals.

Abstrak:

Pseudocyesis merupakan fenomena psikosomatis langka di mana wanita mengalami tanda fisik kehamilan tanpa adanya janin, yang sering dipicu oleh tekanan infertilitas, budaya pronatalis, dan trauma kehilangan. Penelitian ini bertujuan menganalisis etiologi psikosomatis, pengaruh sosial-budaya, serta strategi manajemen kebidanan komprehensif. Menggunakan pendekatan systematic literature review yang berpedoman pada PRISMA 2020, pencarian sistematis dilakukan pada empat basis data elektronik, yaitu Scopus, PubMed/MEDLINE, ScienceDirect, dan Google Scholar, untuk publikasi tahun 2015–2024. Dari 187 artikel yang teridentifikasi pada pencarian awal, sebanyak 15 artikel memenuhi kriteria kelayakan dan dimasukkan dalam sintesis akhir. Temuan menunjukkan bahwa pseudocyesis didasari oleh disregulasi neuroendokrin akibat stres yang menekan dopamin dan meningkatkan prolaktin, memicu gejala seperti amenore dan galaktorea. Secara psikologis, kondisi ini bertindak sebagai mekanisme pertahanan terhadap duka cita dan stigma kemandulan, diperkuat oleh faktor budaya yang menuntut pembuktian status sosial wanita. Kesimpulannya, manajemen kebidanan memerlukan pendekatan holistik. Pembuktian melalui Ultrasonografi (USG) harus senantiasa disertai pendampingan psikologis (psikoterapi) dan farmakoterapi guna mencegah trauma mental lebih lanjut. Bidan memegang peran krusial dalam melakukan deteksi dini serta kolaborasi rujukan psikiatri yang tepat.



*Corresponding Author:

Afifah Taufik,
Faculty of Health Sciences and Pharmacy,
Gunadarma University,
Depok, Indonesia.
Email: afifahtaufik@gmail.com

How to Cite:

A. Taufik, Ambariani, Pujiati, "Pseudocyesis as A Biopsychosocial Phenomenon in Midwifery Practice: A Systematic Review of Etiology and Management", Indonesia. J. Heal. Sci., vol. 10, no. 2, pp. 96-109, 2026.

INTRODUCTION

Pseudocyesis, commonly referred to as false pregnancy, is a complex clinical condition in which a non-pregnant woman develops a persistent belief of being pregnant accompanied by objective signs and symptoms resembling pregnancy, including amenorrhea, abdominal distension, breast changes, and galactorrhea [1]. Its etiology is multifactorial and involves complex interactions among psychological, neuroendocrine, and sociocultural factors. Psychological stress and emotional conflict have been proposed to influence neuroendocrine pathways involved in reproductive function, contributing to physiological manifestations that may resemble pregnancy [2]. The coexistence of subjective pregnancy beliefs and objective somatic manifestations can complicate clinical assessment and requires careful differentiation from delusion of pregnancy, simulated pregnancy, and pregnancy-like symptoms caused by organic conditions [3],[4]. Therefore, pseudocyesis lies at an important intersection between reproductive health and mental health, requiring an integrated biopsychosocial perspective.

Reliable epidemiological data on pseudocyesis remain limited, and its reported frequency varies considerably across geographical and sociocultural settings. Historical estimates from the United States ranged from approximately 1 case per 250 pregnancies in 1940 to 1–6 cases per 22,000 deliveries in 2007. Higher frequencies have been reported in some African settings, including approximately 1 in 344 pregnancies in Nigeria and 1 in 160 women receiving infertility treatment in Sudan. These geographical differences may reflect variations in sociocultural expectations surrounding fertility, access to healthcare, and the availability of early pregnancy confirmation through pregnancy testing and ultrasonography [2]. The higher frequency reported in some resource-limited settings has been associated with sociocultural pressures surrounding fertility and differences in access to early

pregnancy confirmation. In societies where motherhood and fertility strongly influence women's social status, infertility-related stigma and family expectations may further contribute to the psychological and socio-cultural context in which pseudocyesis develops [2]. More recent evidence from a resource-limited setting further illustrates the importance of sociocultural context in the clinical presentation of pseudocyesis. Kassim et al. reported pseudocyesis co-occurring with major depressive disorder in an Ethiopian woman and emphasized that cultural influences may shape patients' experiences of rare psychiatric and reproductive presentations, highlighting the importance of culturally informed assessment and care [5].

Sociocultural expectations surrounding fertility may further increase the psychological burden associated with infertility and childlessness, particularly in settings where motherhood strongly influences women's social identity and status. Pressure related to reproductive expectations, infertility stigma, family relationships, and cultural beliefs may interact with psychological vulnerability in the development and clinical experience of pseudocyesis [2,16]. These observations indicate that pseudocyesis cannot be understood solely as a reproductive or psychiatric condition but should be considered within the broader social and cultural context in which affected women live [6]. Pressure from the social environment, extended family, and gender role expectations forces a woman to seek coping mechanisms to protect her self-esteem from the stigma of infertility. In this context, pseudocyesis appears as a form of maladaptive coping where the body "creates" a pregnancy to meet these social expectations [7]. Unfortunately, in Indonesia, these physical manifestations are often misinterpreted and wrapped in mystical beliefs, such as the notion that the fetus is hidden by supernatural beings, which results in patients delaying seeking medical help [8].

The multidimensional nature of pseudocyesis creates particular challenges for clinical management. Confirmation of the absence of pregnancy may resolve diagnostic uncertainty but does not necessarily address the psychological distress, reproductive concerns, or socio-cultural pressures underlying the condition. Available literature therefore emphasizes psychological support and multidisciplinary management involving reproductive and mental health professionals [9]. Within maternity care, this creates a need to consider how midwives can contribute not only to the recognition of pregnancy-related symptoms but also to supportive communication, identification of additional psychosocial needs, appropriate referral, and continuity of care. Previous literature has predominantly examined pseudocyesis through psychiatric, psychological, neuro-endocrine, and sociocultural perspectives. A recent review by Harry et al. highlighted the frequent coexistence of psychiatric conditions, particularly schizophrenia and mood disorders, and emphasized that management should be individualized according to underlying comorbidities through multidisciplinary collaboration involving gynecological, psychological, and psychiatric care. However, the available evidence remains largely derived from case reports and case series, with limited empirical evidence and substantial heterogeneity in clinical presentation and management approaches. Consequently, although multidisciplinary care is consistently emphasized, evidence translating these biopsychosocial findings into clearly defined, practice-oriented roles for midwives remains limited. This gap is particularly relevant because midwives may encounter women presenting with pregnancy-related symptoms and psychosocial distress and may contribute to early recognition, appropriate referral, supportive communication, and continuity of care within a multidisciplinary framework [16].

Based on this urgency, this research is conducted to perform a systematic review of the current literature to bridge the gap between medical diagnosis and the psychological needs of patients. Therefore, this systematic review aims to critically synthesize the biopsychosocial factors underlying pseudocyesis and evaluate the available evidence on its management, with particular attention to their implications for midwifery practice. By integrating biological, psychological, and sociocultural perspectives, this review seeks to identify clinically relevant roles for midwives in early recognition, supportive care, referral, multidisciplinary collaboration, and continuity of care, while also highlighting gaps that require further empirical investigation.

RESEARCH METHOD

This study uses a Systematic Literature Review (SLR) design to identify, evaluate, and synthesize the best scientific evidence relevant to the topic of pseudocyesis. The protocol for compiling this review strictly adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. The use of these guidelines aims to ensure methodological transparency, minimize selection bias in data collection, and ensure the replicability of the research process.

The literature search was conducted systematically on four reputable electronic databases, namely Scopus, PubMed, Science Direct, and Google Scholar. The search strategy was developed based on the PICO framework (Population, Intervention, Comparison, Outcome) to identify relevant keywords. Keywords are combined using Boolean operators (AND, OR, NOT) as well as specific search codes to broaden or narrow the search results for precision. Details of the keywords and search formulas used are presented in Table 1.

Table 1
Search Strategies and Keywords (Search Strings)

Basis Data (Database)	Formula Pencarian (Search String)
Scopus	TITLE-ABS-KEY (("Pseudocyesis" OR "Phantom pregnancy" OR "False pregnancy") AND ("Psychosomatic" OR "Infertility" OR "Cultural beliefs" OR "Midwifery")) AND NOT (TITLE-ABS-KEY("animal" OR "rat" OR "veterinary"))
PubMed / MEDLINE	("Pseudocyesis"[Title/Abstract] OR "Phantom pregnancy"[Title/Abstract]) AND ("Psychosomatic"[Title/Abstract] OR "Infertility"[Title/Abstract]) AND ("Midwifery"[Title/Abstract] OR "Management"[Title/Abstract]) NOT ("Animals"[MeSH Terms])
ScienceDirect	("Pseudocyesis" OR "Phantom pregnancy") AND ("Psychosomatic" OR "Infertility" OR "Midwifery" OR "Psychology") (Filter: Research Articles, Medicine & Nursing)
Google Scholar	allintitle: (Pseudocyesis OR "Phantom pregnancy") AND (Psychology OR Infertility OR Cultural OR Midwifery)

To filter relevant literature and answer the research question, study eligibility criteria were established based on the PICOS framework. These criteria were used as the main filter in the article

screening process, where articles that did not meet the inclusion criteria or met the exclusion criteria were automatically discarded. The details of these criteria are presented in Table 2.

Table 2.
Inclusion and Exclusion Criteria based on PICOS

Criterion	Inclusion Criteria	Exclusion Criteria
Population	Reproductive-age or menopausal women experiencing physical symptoms of pregnancy but medically proven not to be pregnant.	Animal studies (mice, dogs, rabbits); Studies on males (<i>Couvade Syndrome</i>); Patients with severe psychotic disorders without apparent physical symptoms.
Exposure / Etiology	Psychosomatic factors, infertility stress, depression, trauma of child loss, or cultural factors/mystical beliefs.	Purely organic causes (e.g., hormone-producing ovarian tumors, drug side effects without psychological components).
Comparison	No specific comparison or compared with normal pregnancy (if any).	-
Outcome	Describing clinical manifestations (amenorrhea, galactorrhea, abdominal distension), diagnosis, psychological impact, and medical/midwifery care management.	Articles not discussing clinical aspects or management (purely social theory).
Study Design	Case Reports, Case Series, Original Research, and Systematic/Narrative Reviews.	Opinion articles, editorials, Letters to the Editor without case data, unpublished student theses/dissertations.
Publication	Published between 2015–2024, available in full-text, in English or Indonesian language.	Paid articles with inaccessible full text (abstract only).

The study selection process was conducted in three stages: (1) removal of duplicate records, (2) screening of titles and abstracts for initial relevance, and (3) full-text assessment of potentially eligible articles against the predefined inclusion and exclusion criteria. Title and abstract screening and full-text eligibility assessment were independently conducted by two reviewers (A.T. and A.). Any

disagreements regarding study eligibility were resolved through discussion and consensus between the two reviewers, with methodological supervision and validation provided by a third reviewer (P.). Studies that met the eligibility criteria subsequently underwent methodological quality assessment before inclusion in the final synthesis.

Methodological quality assessment was conducted according to the design of each eligible study using the appropriate Joanna Briggs Institute (JBI) critical appraisal tools. Case reports were assessed using the JBI Critical Appraisal Checklist for Case Reports, while case series and other observational studies were evaluated using the corresponding JBI design-specific appraisal tools. Review articles used primarily to provide contextual or supporting evidence were critically evaluated according to their methodological characteristics and were distinguished from primary clinical evidence during the narrative synthesis. The appraisal considered the clarity of participant or case description, diagnostic assessment, clinical history, intervention or management, outcomes, and the appropriateness of the study methodology according to the respective study design. Quality assessment was performed independently by two reviewers (A.T. and A.), and disagreements were resolved through discussion and consensus, with methodological supervision by a third reviewer (P.). The appraisal findings were used to inform the interpretation and weighting of the evidence in the narrative synthesis rather than applying a uniform numerical cut-off across heterogeneous study designs

RESULT AND ANALYSIS

1. Study Selection

The process of searching and selecting literature was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. The review protocol was registered with the International Prospective Register of Systematic Reviews (PROSPERO; registration number CRD420261428142). At the initial identification stage, searches across four electronic databases yielded a total of 187 potentially relevant records: Scopus (n = 134), ScienceDirect (n = 25), Google Scholar (n = 17), and PubMed (n = 11).

Duplicate records were first removed using reference management software. A total of 37 duplicate records were identified and removed, leaving 150 records for title and abstract screening. At this stage, 120 records were excluded because they did not meet the initial relevance criteria, including records addressing unrelated conditions, purely psychotic disorders without relevant physical manifestations, or other topics outside the scope of the review.

The remaining 30 articles underwent full-text eligibility assessment. Of these, 15 articles were excluded: six because of inappropriate study design or insufficient relevant case data, six because of ineligible study populations, such as animal subjects or male participants, and three because their publication dates fell outside the predefined eligibility period of 2015–2024. Consequently, 15 studies met the predefined eligibility criteria and were included in the final synthesis. Methodological quality appraisal was subsequently used to assess the strengths and limitations of the included evidence and to inform its interpretation in the narrative synthesis.

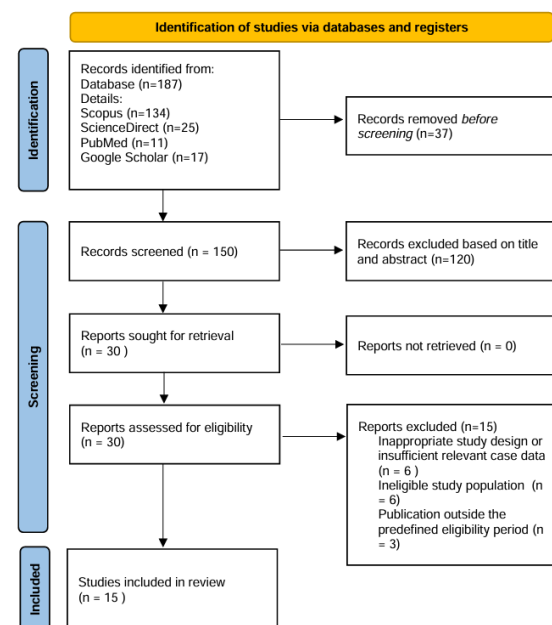


Figure 1. PRISMA 2020 Study Selection Flow Diagram

2. Study Characteristics

A total of 15 articles that met the inclusion criteria were extracted and analyzed to identify clinical profiles, psychological predisposition factors, manifestations of physical symptoms, and outcomes of their management. The characteristics of each of these studies vary

from case reports, case series, to systematic literature reviews, summarizing the phenomenon of pseudocyesis from various national and cultural backgrounds. A summary of data extraction and the main findings' characteristics from the 15 studies is presented comprehensively in Table 3.

Table 3.
Study Characteristics and Main Findings

No	Author (Year) & Country	Psychological Trigger & Etiology	Clinical Manifestations	Management & Outcome
1	Nagdive et al. (2021) (India)	Folie-à-Deux: 10-year infertility stress & isolation. Wife's delusion shared by husband.	Amenorrhea, abdominal distension. Hearing fetal voices.	Separation, antipsychotics, & psychotherapy. Both recovered.
2	Gul et al. (2017) (Turkey)	Grief: Father's death triggered desire for a replacement child.	Amenorrhea, abdominal bulging, fetal movement sensation. Low BMI.	CBT & pharmacotherapy. Symptoms resolved.
3	Chag et al. (2023) (India)	Trauma/Grief: Missing son triggered severe depression and delusions to "fill the void".	Heavy abdomen, morning sickness. Belief in a "dying" fetus.	ECT (6 sessions) & medication. Delusions resolved.
4	Sisek-Sprem et al. (2015) (Croatia)	Neuroendocrine: Drug-induced hyperprolactinemia combined with abortion trauma & loneliness.	Amenorrhea, galactorrhea, abdominal distension. Imitating labor.	Dose adjustment (prolactin-sparing) & psychodynamics.
5	Mascarenhas & Crasta (2019) (India)	Misinterpretation: Drug side effects perceived as pregnancy, worsened by social pressure.	Amenorrhea (>7 months), galactorrhea, feeling fetal movements.	Family education & medication change. Delusions improved.
6	Ursumando et al. (2022) (Italy)	High Suggestibility: Imitating a pregnant aunt ("copy-cat"). Poor sexual understanding.	Behavioral changes, perceived abdominal movements.	Concrete sex education & pharmacotherapy. Symptoms subsided.
7	Cipriani & Di Fiorino (2015) (Italy)	Cognitive Deficit: Early sign of dementia; loss of reality testing.	Persistent pregnancy belief in elderly (>60). Memory loss.	Low-dose pharmacotherapy.
8	Chechko et al. (2023) (Germany)	Reverse Mechanism: Compares with <i>Pregnancy Denial</i> (mind suppressing physical signs).	<i>Silhouette effect</i> (flat abdomen despite pregnancy).	Trauma psychotherapy. Differentiating denial vs. delusion.
9	Porfyri et al. (2020) (Greece)	Trauma Healing: Response to failed IVF and past birth trauma to restore self-esteem.	Abdominal distension, amenorrhea, morning sickness. Normal hormones.	Psychodynamic psychotherapy. Symptoms resolved after processing grief.
10	Harry et al. (2024) (Nigeria/Intl)	Psychiatric Comorbidity: Major depression depletes dopamine, increasing prolactin.	Spectrum of symptoms from amenorrhea to galactorrhea.	Low-dose antipsychotics & ruling out organic causes.
11	Campos & Link (2016) (USA)	Infertility Stress: Pregnancy desire clashing with menopause, activating sympathetic nerves.	Enlarged abdomen, PCOS-like signs.	Counseling: Explaining symptoms as pre-menopause.
12	Kenner & Nicolson (2015) (USA)	Somatization vs Denial: Triggered by dependency and identity conflicts.	<i>Lumbar Lordosis</i> : Unconscious back arching mimicking a pregnant belly.	Long-term psychotherapy.
13	Welner et al.	Extreme Motives: Delusions	Faking signs (belly)	Forensic sanity

	(2021) (USA)	driving crimes (e.g., fetal abduction) for validation.	pads) or extreme aggression.	assessment & early detection.
14	Gogia et al. (2020) (USA)	Misinterpretation: Misjudging medical conditions (e.g., gallstones) as fetal movements.	Symptoms masking real organic diseases (tumors/infections).	Comprehensive physical exam to rule out organic diseases.
15	Azizi & Elyasi (2017) (Iran)	Integrative Theory: Bio-psycho-social stress from gender roles and infertility stigma.	Amenorrhea, galactorrhea (HPA axis disruption).	Multimodal therapy (Medication, Family Therapy, Education).

3. Thematic Analysis

Based on the synthesis of data from 15 selected articles, four main themes were identified that comprehensively explain the phenomenon of pseudocyesis, ranging from biological mechanisms, psychological roots, cultural influences, to medical management strategies.

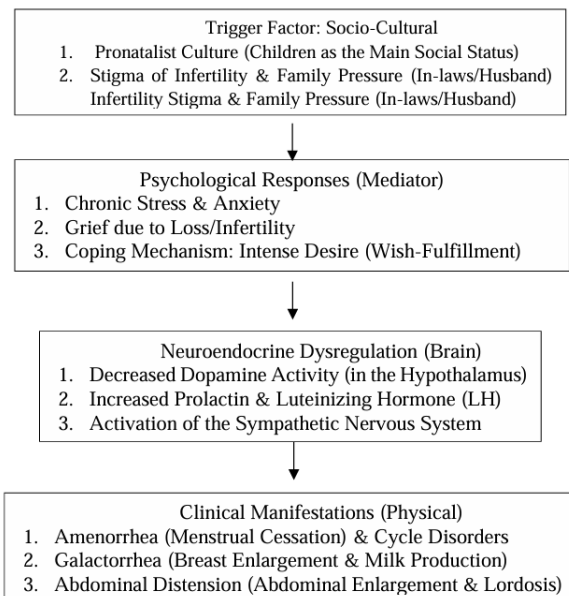


Figure 2. Conceptual Framework of the Biopsychosocial Mechanism of Pseudocyesis. Source: Adapted from Various Literature (2025)

As illustrated in Figure 2, the pathogenesis of pseudocyesis begins with predisposing factors such as a pronatalist culture and strong infertility stigma. This external pressure is internalized by the patient into chronic psychological stress and grief. This psychological response then acts as a mediator that disrupts the Hypothalamic-Pituitary axis, causing a decrease in dopamine and a spike in prolactin, which ultimately creates somatic manifestations resembling pregnancy.

Further elaboration on the biological mechanisms that culminate in this process is discussed in depth in the following first theme.

Theme 1: Neuroendocrine and Somatic

Manifestations All studies agree that pseudocyesis is not merely a false belief, but is accompanied by real physical changes. The most consistently reported symptoms are abdominal distension (enlarged abdomen) and amenorrhea (cessation of menstruation). This phenomenon is based on a central neuroendocrine mechanism, where chronic stress suppresses dopamine levels in the hypothalamus, which automatically triggers a surge in prolactin and Luteinizing Hormone (LH) levels. This condition of hyperprolactinemia is what causes galactorrhea (milk discharge) and breast swelling reported in the majority of cases [10],[11]. Additionally, abdominal distension is explained not by the presence of a mass, but rather due to lumbar lordosis (curved back posture) and downward pressure on the diaphragm caused by autonomic stress [12].

Theme 2: Psychological Dynamics: Trauma of Loss and Infertility

In-depth analysis shows that pseudocyesis often emerges as a defense mechanism against severe psychological trauma. Some the study findings found that patients often have a history of child loss (grief) or repeated failures in in vitro fertilization (IVF) procedures [13],[14]. In this context, the body creates a "pregnancy" as a subconscious effort to cope with grief and restore the wounded self-esteem caused by infertility. In other, more severe cases,

as reported [15], [9], this symptom manifests as part of a delusional disorder or schizophrenia, where the patient's reality testing is impaired, leading them to believe that pathological bodily sensations are fetal movements. This finding is consistent with a larger systematic review of 84 published cases, which identified schizophrenia, bipolar disorder, and depression as the most frequently associated psychiatric diagnoses [26].

Theme 3: Social Construction and Cultural Beliefs

Cultural factors play a vital role, especially in developing countries such as Indonesia, India, and Nigeria. The other studies highlight that in pronatalist societies where a woman's value is measured by her ability to bear children, social pressure from extended families (in-laws) and the stigma of infertility become major stressors. This external pressure is exacerbated by mystical interpretations [8],[16]. In Indonesia, symptoms of abdominal swelling are often not immediately taken to medical professionals because they are considered as "curses" or black magic, or conversely, as "miraculous pregnancies" hidden by supernatural beings, leading to significant delays in medical diagnosis [17],[2].

Theme 4: Challenges in Diagnosis and Holistic Management

The final theme highlights the crucial role of supportive examinations and therapeutic approaches. The emphasize that Transvaginal/Abdominal Ultrasonography (USG) is the gold standard for definitive diagnosis to rule out true pregnancy and organic tumors [7],[4]. However, the biggest challenge is not the physical diagnosis, but rather the patient's acceptance. Studies show that direct confrontation with ultrasound results often triggers denial or anger in patients. Therefore, recent literature recommends a collaborative approach: ultrasound as objective evidence, combined with

pharmacotherapy (antipsychotics / antidepressants) and supportive psychotherapy to help patients accept reality without feeling humiliated [18],[19].

DISCUSSION

1. Biopsychosocial Mechanism and Neuroendocrine Dysregulation

Pseudocyesis is the most extreme clinical manifestation of psychosomatic disorders, where strong psychological beliefs can manipulate the body's physiology in a tangible way. Based on a synthesis of the literature, the main mechanism underlying this phenomenon is a disturbance in the Hypothalamic-Pituitary-Ovarian (HPO) axis triggered by chronic psychosocial stressors [2]. Tarin and Campos explain this pathophysiology thru the catecholamine deficiency theory [17],[4]. In conditions of severe depression or intense emotional stress (such as grief due to infertility), there is a decrease in the activity of biogenic amines, particularly dopamine and norepinephrine, in the hypothalamus. Because dopamine functions as a Prolactin Inhibiting Factor (PIF), the decrease in dopamine levels automatically removes the inhibition on the anterior pituitary gland. As a result, there is excessive secretion of prolactin and Luteinizing Hormone (LH). This hormonal profile is responsible for the appearance of classic pregnancy signs; elevated prolactin triggers galactorrhea (breast milk production) and breast swelling, while LH disruption causes persistence of the corpus luteum, leading to amenorrhea or cessation of menstruation.

The validity of this neuroendocrine theory is strongly supported by findings in patients receiving pharmacological therapy. Case studies by Sisek-Sprem and Mascarenhas & Crasta show that the use of antipsychotic drugs (which work by blocking dopamine receptors) often triggers the side effect of pseudocyesis [10],[4]. This proves that the dopaminergic pathway holds a central key: when dopamine is suppressed either by pure depression or by

medications, the body will respond by creating symptoms of pseudocyesis. In addition to hormonal factors, the physical manifestation of abdominal distension (enlarged abdomen) is explained through somatic mechanisms. Kenner explains that abdominal enlargement in pseudocyesis patients is not caused by a tumor mass or fetus, but rather by a combination of intestinal gas accumulation, urinary retention, and unconscious postural changes [20]. Patients tend to exhibit lumbar lordosis (arching the back forward) and pressing the diaphragm down, which visually creates the illusion of a distended abdomen resembling a second or third trimester pregnancy. This physical mechanism confirms that pseudocyesis is a total body response to deep psychological desires or fears.

2. Psychological Dynamics: Defense Mechanisms and Trauma

In addition to neurobiological factors, this review finds that pseudocyesis often functions as a complex psychological defense mechanism to cope with unbearable internal conflicts. Most of the literature places "an intense desire to have a child" and "an overwhelming fear of infertility" as two sides of the same coin that trigger this condition. However, the findings provide a deeper perspective: pseudocyesis is not merely a desire, but a response to grief and unresolved trauma of loss [13],[21]. In the case reported by Chag et al., the patient developed a pregnancy delusion after the tragic loss of her child, where physical symptoms appeared as a subconscious attempt to "replace" the lost object of affection (restitution phenomenon). A similar finding was reported in the study by Gul on anorexia patients, where conflicts of dependency with parents and the father's death triggered psychological regression manifesting as body shape changes resembling pregnancy [19].

In the spectrum of severe mental disorders, pseudocyesis can appear as part

of delusional disorder or schizophrenia. Patients with psychotic disorders, reality testing is severely impaired, leading them to interpret neutral bodily sensations (such as bowel movements or bloating) as actual fetal movements [9],[11]. This phenomenon can even be contagious, as reported by Nagdive in a case of Folie-à-Deux (shared psychosis), where the wife's belief in her pregnancy was so strong and dominant that it influenced her husband to also believe in and validate the delusion, creating a mutually reinforcing shared delusional system [15]. A similar diagnostic complexity has been reported in a case of pseudocyesis emerging during an acute manic episode in a patient with schizoaffective disorder, further illustrating its occurrence across the spectrum of psychotic and mood disorders [29]. Interestingly, the literature also highlights the contrasting comparison between pseudocyesis and its opposite phenomenon. This condition with Pregnancy Denial, where women who are truly pregnant deny the fact of their pregnancy until childbirth [22],[20]. If in pregnancy denial the mind is able to "erase" physical symptoms in a pregnant woman (the abdomen remains flat despite the presence of a fetus), then in pseudocyesis the mind is able to "create" physical symptoms in an empty uterus. These two paradoxical phenomena demonstrate the powerful role of the psyche in controlling women's reproductive physiology, affirming that the body is merely a manifestation of what the mind believes.

3. Socio-Cultural Construction and the Stigma of Infertility

The prevalence of pseudocyesis being much higher in developing countries compared to developed countries indicates that this disorder cannot be separated from the local socio-cultural context. Analysis of studies from Indonesia, India, and Nigeria confirms that pronatalist cultures, which place fertility as the primary measure of a woman's value, serve as fertile incubators

for the development of this condition. In traditional patriarchal societies, infertility is often considered an absolute failure in fulfilling gender roles, leading to social ostracism, threats of divorce, or polygamy by the husband [16],[2]. The extreme external pressure from the environment and extended family (especially in-laws) forces the psyche of women to seek defensive coping mechanisms. The woman's body then responds to the stress by producing signs of pregnancy as a form of "social camouflage" to protect her self-esteem and status, ensuring she remains accepted within the family. This pattern is corroborated by a community-based study in a rural southeastern Nigerian community, which linked a higher prevalence of pseudocyesis to limited access to and underutilization of maternity health services [27].

In the specific context of Indonesia, the unique intersection between medical symptoms and mystical beliefs that complicate treatment [8]. In many regions, the phenomenon of an enlarged abdomen without a fetus is often not immediately addressed medically due to strong mystical interpretations. Patients and their families may believe this to be a "mystical pregnancy" where the fetus is hidden by supernatural beings, or conversely, as a result of witchcraft ("santet") sent by others. These beliefs, as also noted in a rural population study, often lead to significant delays in diagnosis because patients prefer to seek treatment from shamans or alternative medicine rather than undergoing medical ultrasound examinations [4]. As a result, the pregnancy delusion persists longer, becomes deeply rooted, and is increasingly difficult to dispel when the patient is finally brought to a healthcare facility.

4. Challenges in Clinical Management and Obstetric Implications

The greatest challenge in managing pseudocyesis lies not in the medical

diagnosis, but in how to convey the fact to the patient without undermining their mental stability. The absolute first step is to rule out organic causes thru transvaginal ultrasound (USG) and serum beta-hCG level examination [7], [4]. This is crucial because some ovarian tumors or endocrine disorders can mimic pregnancy symptoms such as amenorrhea and abdominal distension, which, if misdiagnosed as purely psychiatric issues, can have fatal consequences. However, Athalia noted that although ultrasound is the gold standard for diagnosis, its use often becomes a double-edged sword for patients [8]. For medical professionals, an ultrasound result showing an "empty uterus" is objective evidence, but for patients experiencing strong delusions, this result is often considered a malfunction of the equipment or even a medical conspiracy, triggering denial and a shift to irrational alternative medicine. Therefore, obstetric protocols should not stop at mere physical evidence but must be immediately followed by intensive psychological support.

An effective management strategy requires a multidisciplinary approach that simultaneously integrates midwifery care, psychiatry, and family support. Some study recommend a combination of pharmacotherapy using low-dose antipsychotics or antidepressants to stabilize dopamine neurotransmitter imbalances, accompanied by supportive psychotherapy [19],[10]. In special populations such as adolescents with intellectual disabilities or Down Syndrome, Ursumando recommend a more concrete and visual approach to sex education because they may have misconceptions about conception and pregnancy [18]. Meanwhile, for cases triggered by past trauma such as repeated IVF failures, emphasize the importance of psychodynamic therapy to help patients process unresolved grief, rather than forcing them to confront the facts. Midwives play a key role as a bridge for therapeutic communication, validating the

patient's feelings of loss, while gradually guiding them back to reality without judgment [13].

From a midwifery perspective, the management of women experiencing pseudocyesis should extend beyond communicating the absence of pregnancy to include individualized psychosocial support and continuity of care. Midwifery continuity-of-care models encompass the monitoring of women's physical, psychological, spiritual, and social well-being, individualized education and support, and the identification, referral, and coordination of care for women with additional needs. These components are particularly relevant to pseudocyesis, in which physical pregnancy-like manifestations may coexist with significant psychological distress and complex psychosocial factors.

Accordingly, midwives may contribute to ongoing assessment of physical and psychosocial well-being, provide supportive and individualized communication, identify concerns requiring additional care, facilitate appropriate referral and multi-disciplinary coordination, and maintain continuity of support throughout the patient's adjustment and recovery. Evidence from a systematic review further suggests that midwifery continuity of care may contribute to improvements in maternal anxiety, worry, and depressive symptoms, although the evidence remains preliminary and has not been evaluated specifically in women with pseudocyesis [23]. This is further supported by a meta-analysis showing that midwife-supported psychotherapy significantly reduces antenatal depression and anxiety compared with conventional obstetric care, reinforcing the potential therapeutic role of midwives in psychologically complex conditions such as pseudocyesis [30].

Based on these findings, practical implications for midwifery care may include ongoing assessment of physical and psychosocial well-being, individualized and supportive communication, recognition

of psychological distress or additional care needs, timely referral and coordination with appropriate obstetric, psychological, or psychiatric services, and continuity of follow-up to support psychological adjustment and monitor ongoing care needs. Within this framework, the midwife functions as part of an integrated multidisciplinary pathway rather than as the sole provider responsible for the psychiatric management of pseudocyesis [16],[23].

Furthermore, neglecting this condition has serious implications that extend beyond the clinical realm into the legal and public safety domains. In their forensic review revealed the extreme potential dangers of untreated pseudocyesis, where the obsessive urge to "prove" pregnancy can drive patients to commit criminal acts such as baby kidnapping or fetal abduction [24]. Although such severe outcomes appear to be uncommon, these reports highlight the importance of assessing psychiatric comorbidities, impaired reality testing, and potential risk behaviors in patients with pseudocyesis. Patients presenting with severe psychiatric symptoms, impaired judgment, or safety concerns may require timely specialist mental health assessment and coordinated multidisciplinary management. Overall, the available evidence supports an individualized multidisciplinary approach in which management is tailored to the psychological, psychiatric, reproductive, medical, and sociocultural factors identified in each patient. Confirmation of the absence of pregnancy should therefore be accompanied by sensitive communication, assessment of underlying contributing factors, and appropriate referral when additional psychological or psychiatric care is required. Case reports have also documented pseudocyesis presenting in postmenopausal women, underscoring that this condition is not restricted to women of reproductive age [28]. Additionally, in the elderly population, Cipriani & Fiorino remind us that the symptoms of

pseudocyesis can be an early (prodromal) sign of frontotemporal dementia, making early detection vital for planning long-term care [25]. Thus, the management of midwifery care must transform from mere physical examinations to holistic care capable of detecting "red flags" or psychological danger signs for the safety of patients and the surrounding community.

CONCLUSION

Based on the results of a systematic review of 15 selected articles, the following conclusions can be drawn to address the problem statement:

1. Psychosomatic Mechanisms and Etiology

The available evidence suggests that pseudocyesis is a complex biopsychosocial condition arising from interactions among psychological, neuroendocrine, reproductive, and sociocultural factors. Psychological stress and emotional conflict may contribute to alterations in neuroendocrine pathways, including dopaminergic regulation and prolactin secretion, which may be associated with pregnancy-like manifestations such as amenorrhea, galactorrhea, breast changes, and abdominal distension.

2. The Influence of Socio-Cultural Factors

Sociocultural pressures related to fertility, infertility stigma, expectations of motherhood, and family or community beliefs may further increase psychological vulnerability and influence the clinical experience of pseudocyesis, particularly in settings where reproductive status carries substantial social significance.

3. Midwifery Care Management

Management therefore requires an individualized and multidisciplinary approach that addresses physical manifestations alongside underlying psychological, psychiatric, reproductive, and sociocultural factors.

Within this pathway, midwives may contribute to early recognition, assessment of physical and psychosocial well-being, supportive communication, identification of additional care needs, appropriate referral and coordination with relevant professionals, and continuity of follow-up.

Based on the findings of this study, it is recommended that obstetric clinical practices transform toward a holistic approach by integrating early mental health screening for patients with a history of infertility and prioritizing empathetic therapeutic communication when delivering diagnoses to prevent further psychological trauma. Healthcare institutions need to strengthen this by establishing collaborative standard operating procedures that facilitate mandatory referrals to psychiatric or psychological services, while subsequent researchers are expected to expand studies on the effectiveness of culturally-based psychosocial interventions to more comprehensively address the stigma experienced by patients.

However, the current evidence base remains limited by the predominance of case-based and heterogeneous literature, restricting firm conclusions regarding standardized management approaches. Further empirical research is needed to clarify the effectiveness of multidisciplinary interventions and to develop and evaluate evidence-based, practice-oriented guidance for midwives involved in the care of women with pseudocyesis.

ACKNOWLEDGEMENTS

The author expresses the deepest gratitude to the Faculty of Health Sciences and Pharmacy, Gunadarma University, for the academic support and literature access facilities provided during the process of compiling this systematic review. The author also appreciates all parties who have contributed constructive thoughts and discussions. This research is an independent study and did not receive

grants or specific funding from any public, commercial, or nonprofit donor institutions. Afifah Taufik: Conceptualization, methodology, literature search, study screening, data extraction, formal analysis, and writing – original draft. Ambariani: Methodology, study screening, validation, interpretation of findings, and writing – review and editing. Pujiati: Supervision, methodological guidance, validation, and writing – review and editing. All authors read and approved the final manuscript.

REFERENCES

- [1] M. A. Fadilah, R. P. P. Erdenwarmansyah, R. S. Saputri, and L. I. Lestari, "Menelusuri Penyebab , Dampak , dan Solusi dalam kasus Pseudocyesis : Sebuah Tinjauan Literatur," vol. 4, no. 9, pp. 439–448, 2024, doi: 10.17977/10.17977/um070v4i92024p439-448.
- [2] M. Azizi and F. Elyasi, "Biopsychosocial view to pseudocyesis: A narrative review," vol. 15, no. 9, pp. 535–542, 2017.
- [3] M. V Seeman, "Pseudocyesis, delusional pregnancy, and psychosis: The birth of a delusion," vol. 2, no. 8, 2014, doi: 10.12998/wjcc.v2.i8.338.
- [4] S. J. Campos, D. Link, and FAAN, "Pseudocyesis," vol. 12, no. 6, 2016, doi: 10.1016/j.nurpra.2016.03.009.
- [5] F. M. Kassim, M. T. Wasihun, M. A. Jimma, and S. W. Megersa, " The role of sociocultural factors in rare medical conditions: The first case report of pseudocyesis in an Ethiopian woman with major depressive disorder ," *Clin. Case Reports*, vol. 12, no. 5, pp. 1–5, 2024, doi: 10.1002/ccr3.8888.
- [6] P. C. Ibekwe and J. U. Achor, "Psychosocial and cultural aspects of pseudocyesis," vol. 50, no. 2, 2008.
- [7] S. Gogia *et al.*, "Medical considerations in delusion of pregnancy : a systematic review," *J. Psychosom. Obstet. Gynecol.*, vol. 0, no. 0, pp. 1–7, 2020, doi: 10.1080/0167482X.2020.1779696.
- [8] I. N. Athalia and A. A. Yuar, "Pseudocyesis: From Psycho-Social Conflict to Somatic Reality, A Literature Review," 2025.
- [9] S. Das *et al.*, "Delusion of Pregnancy : A Case Report and Literature Review," 2023, doi: 10.1177/11795476231161169.
- [10] M. Sisek-Šprem, V. Barić, M. Herceg, Z. Petrović, P. Bilić, and P. Brečić, "Delusion of Pregnancy – Case Series of Seven Patients," vol. 3, no. 3, pp. 57–63, 2015, doi: 10.9734/IJMPCR/2015/15965.
- [11] J. J. Mascarenhas and G. Crasta, "Delusion of Pregnancy in a Patient Treated with Atypical Antipsychotics," vol. 6, no. July, pp. 313–317, 2019.
- [12] W. D. Kenner, S. E., and Nicolson, "Psychosomatic Disorders of Gravida Status: False and Denied Pregnancies," *Psychosomatics*, vol. 56, no. 2, pp. 119–128, 2015, doi: 10.1016/j.psym.2014.09.004.
- [13] G. N. Porfyri, K. Anastasia, T. Anthoula, D. Ioannis, I. Ierodiakono, and Benou, "PSEUDOCYESIS AS A HEALING MECHANISM FOR PSYCHOLOGICAL TRAUMA: A CASE REPORT," vol. 14, no. 1, pp. 82–85, 2020.
- [14] H. K. Chaudhary, M. Singh, and P. Ghosh, "Influence of corporate digital responsibility, responsible marketing, green technology and responsible practices on green brand equity in star-rated hotels," *Int. J. Contemp. Hosp. Manag.*, Aug. 2025, doi: 10.1108/IJCHM-11-2024-1738.
- [15] A. B. Nagdive, R. Singh, B. Rouchelle, F. Prakash, and B. B. Siddharth, "Pseudocyesis Leading to Folie-à-Deux," pp. 419–423, 2021.
- [16] N. M. Harry, I. Folorunsho, K. Anona, N. Okafor, and G. O. Anugwom, "A Comprehensive Review of Pseudocyesis and its Associated Psychiatric Disorders," vol. 36, no. 6, pp. 86–96, 2024.

- [17] J. J. Tarín, C. Hermenegildo, M. A. García-pérez, and A. Cano, "Endocrinology and physiology of pseudocyesis," 2013, doi: 10.1186/1477-7827-11-39.
- [18] L. Ursumando, E. Fucà, F. Costanzo, and S. Vicari, "Delusion of Pregnancy in Down Syndrome: Two Case Reports," 2022.
- [19] A. Gul, H. Gul, N. E. Ozen, and S. Battal, "Pseudocyesis in a patient with anorexia nervosa: etiologic factors and treatment approach," vol. 0573, 2017, doi: 10.1080/24750573.2017.1342826.
- [20] W. D. Kenner and S. E. Nicolson, "Psychosomatic Disorders of Gravida Status: False and Denied Pregnancies," *Psychosomatics*, vol. 56, no. 2, pp. 119–128, 2015, doi: 10.1016/j.psych.2014.09.004.
- [21] et al Chag, "Case Report Delusion of Pregnancy," 2023, doi: 10.4103/mjdrdypu.mjdrdypu.
- [22] N. Chechko, E. Losse, and S. Nehls, "Pregnancy Denial: Toward a New Understanding of the Underlying Mechanisms," *Curr. Psychiatry Rep.*, vol. 25, no. 10, pp. 493–500, 2023, doi: 10.1007/s11920-023-01448-2.
- [23] S. Cibralic *et al.*, "The impact of midwifery continuity of care on maternal mental health: A narrative systematic review," *Midwifery*, vol. 116, p. 103546, 2023, doi: 10.1016/j.midw.2022.103546.
- [24] M. Welner, A. Burgess, and Y. O. M. Kate, Ma, "Psychiatric and legal considerations in cases of Fetal Abduction by Maternal Evisceration," no. May, pp. 1–13, 2021, doi: 10.1111/1556-4029.14788.
- [25] G. Cipriani and M. Di Fiorino, "Delusion of Pregnancy: An Unusual Symptom in the Context of Dementia," vol. 30, no. 4, pp. 341–345, 2015, doi: 10.1177/1533317514549412.
- [26] S. C. Bera and S. Sarkar, "Delusion of Pregnancy: A Systematic Review of 84 Cases in the Literature," *Indian J. Psychol. Med.*, vol. 37, no. 2, pp. 131–137, 2015, doi: 10.4103/0253-7176.155609.
- [27] U. Ouj, "Pseudocyesis in a Rural Southeast Nigerian Community," *J. Obstet. Gynaecol. Res.*, vol. 35, no. 4, pp. 660–665, 2009, doi: 10.1111/j.1447-0756.2008.00997.x.
- [28] M. Sharma, P. Shankar, P. Kukreti, and D. Kataria, "A Rare Case Report of Pseudo-Pregnancy in a Menopausal Female," *Indian J. Psychiatry*, vol. 65, no. 7, pp. 789–792, 2023, doi: 10.4103/indianjpsychiatry.indianjpsychiatry_430_22.
- [29] T. West, O. Ajibade, A. Fontanetta, and S. Munir, "No Little Feet: Managing Pseudocyesis in a Homeless, Acutely Manic Patient with Schizoaffective Disorder, Bipolar Type," *Case Rep. Psychiatry*, vol. 2023, p. 2504871, 2023, doi: 10.1155/2023/2504871.
- [30] Q. Han, M. Guo, F. Ren, D. Duan, and X. Xu, "Role of Midwife-Supported Psychotherapy on Antenatal Depression, Anxiety and Maternal Health: A Meta-Analysis and Literature Review," *Exp. Ther. Med.*, vol. 20, no. 3, pp. 2599–2610, 2020, doi: 10.3892/etm.2020.9011.