

Psychosocial Problems and Coping Strategies among Preadolescent Girls with Early-Onset Puberty: Implications for Nursing Practice, School Health, and Family-Centered Care- A Narrative Review

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Received: 24th April, 2026; Revised: 20th May 2026; Accepted: 10th August, 2026; Available Online: 14th August, 2026

ABSTRACT

Early-onset puberty can be challenging for preadolescent girls because physical maturation may occur before they are emotionally and socially prepared to understand and manage the associated changes. This narrative review examined recent evidence published between 2020 and 2026 on psychosocial problems, coping strategies, and supportive care among girls with early pubertal development, with particular attention to nursing practice, school health, and family-centered care. Literature was identified through PubMed/MEDLINE, Scopus, Web of Science, CINAHL, PsycINFO, and Google Scholar using MeSH and free-text terms related to precocious puberty, early pubertal timing, early menarche, depression, anxiety, body image, coping, social support, menstrual health, family, school health, and quality of life. Recent longitudinal, observational, clinical, and systematic-review evidence indicates that earlier pubertal development may be associated with depressive symptoms, anxiety, body dissatisfaction, emotional difficulties, peer problems, and reduced quality of life, although the magnitude of these associations varies across populations and is influenced by family, social, and individual factors. Early menarche may additionally increase difficulties related to menstrual preparedness and school participation. Supportive parent-child communication, timely puberty and menstrual education, adaptive coping, positive peer relationships, and accessible school-based support may facilitate adjustment. Nurses can contribute through early psychosocial assessment, individualized counselling, menstrual-health education, family support, school coordination, and timely referral. Integrating psychosocial care with endocrine assessment may promote resilience and improve overall wellbeing.

Keywords: early-onset puberty; precocious puberty; preadolescent girls; psychosocial problems; coping; anxiety; depression; body image; menstrual health; nursing care; family-centered care.

How to cite this article: Talukdar R, Gogoi N, Psychosocial Problems and Coping Strategies among Preadolescent Girls with Early-Onset Puberty: Implications for Nursing Practice, School Health, and Family-Centered Care- A Narrative Review Int J Drug Deliv Technol. 2026;16(78s): 304-316; DOI: 10.25258/ijddt.16.78s.36

Source of support: Nil.

Conflict of interest: None

INTRODUCTION

Puberty is a normal developmental process, but its timing is not the same for every child. When physical signs of puberty appear substantially earlier than expected, the experience can be difficult for both the child and her family. In girls, central precocious puberty is generally characterized by activation of the hypothalamic-pituitary-gonadal axis with breast development occurring before 8 years of age. Early puberty may be idiopathic, although genetic, nutritional, metabolic, environmental and neurological factors can contribute to its development [1-3]. Recent epidemiological evidence suggests that the occurrence of precocious puberty varies considerably between populations, with girls consistently accounting for the majority of clinically recognized cases [4].

The clinical consequences of early puberty are often discussed in terms of accelerated growth, advanced bone

maturation and compromised adult height. However, these physical outcomes represent only one part of the child's experience. A girl may develop breasts, pubic hair, acne, body odour or menstruation while she is still emotionally and socially functioning as a young child. This difference between physical appearance and psychosocial maturity can create confusion and may expose the child to expectations that are inappropriate for her chronological age [1,2]. Current clinical reviews therefore emphasize that management of central precocious puberty should extend beyond endocrine assessment and treatment [5].

The psychological consequences of early pubertal timing have received increasing attention during the past few years. Longitudinal evidence indicates that earlier breast development can be associated with higher depressive or anxiety symptoms, although the magnitude and direction of the association are not identical across ethnic groups or pubertal indicators [6]. A six-year prospective cohort

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study similarly found that the relationship between pubertal timing and subsequent depressive symptoms was more apparent among girls than boys, with later pubertal timing being associated with fewer depressive symptoms among girls [7]. These findings suggest that the psychosocial meaning of puberty may be particularly important for girls who mature earlier than their peers.

The relationship is not, however, a simple cause-and-effect process. Pubertal timing occurs within a wider social environment. Family circumstances, childhood mental health, body mass index, socioeconomic conditions, peer relationships and previous exposure to adversity can influence both the timing of puberty and psychological wellbeing [6,8]. In a large US cohort, earlier pubertal timing among girls was associated with greater internalizing and externalizing symptoms one year later, even after adjustment for several demographic and personal factors [8]. Such findings support a biopsychosocial interpretation rather than viewing early puberty as an isolated endocrine abnormality.

Body image is another important concern. Puberty changes body shape, breast size, weight distribution and appearance within a relatively short period. Girls who develop earlier may feel conspicuous or different from classmates, particularly when their physical development is visibly ahead of the peer group. A prospective UK cohort of 6,644 participants found associations between pubertal timing and body dissatisfaction and self-image among girls, with body mass index influencing some of these relationships [9]. Research examining early adolescent girls has also identified relationships between pubertal timing, social physique anxiety, motivation and physical activity, suggesting that appearance-related concerns may influence everyday behaviour [10].

Menstruation can make this developmental difference even more noticeable. A girl who experiences menarche before her friends may have little opportunity to learn from peers and may be embarrassed to discuss menstruation. Lack of preparation can lead to anxiety about menstrual blood, odour, staining clothes, obtaining sanitary products and managing menstruation during school hours. Contemporary evidence shows that menstrual-health education can improve knowledge and menstrual practices, while broader menstrual-hygiene interventions can improve emotional wellbeing and educational outcomes [11,12].

School is therefore a particularly important setting for intervention. The school environment can either reduce or increase the psychological burden associated with early puberty. Supportive teachers, school nurses, confidential counselling and access to menstrual products may make the transition considerably easier. Conversely, teasing, bullying, inadequate toilet facilities and fear of menstrual leakage can contribute to school avoidance and social withdrawal [12,13].

Family responses also matter. Parents may be worried about the diagnosis, future height, treatment, menstruation

or the child's emotional wellbeing. At the same time, parents may unintentionally treat a physically mature child as though she is emotionally older. Recent qualitative and clinical evidence suggests that caregivers themselves may experience uncertainty and psychological stress when their child is diagnosed with central precocious puberty [14]. Family-centred nursing care should therefore address the concerns of both the child and the caregivers.

Coping strategies represent an important but comparatively less developed area of the current evidence. Girls respond differently to early physical maturation. Some seek information and support from parents, teachers or friends, whereas others avoid discussing the changes, become increasingly self-conscious or withdraw socially. Current research suggests that pubertal timing may interact with emotional and social processes rather than acting as an independent determinant of psychological outcomes [6,8,10]. This makes coping, social support and resilience important targets for nursing intervention.

Recent clinical studies further strengthen the argument for psychosocial assessment. Girls with central precocious puberty have been reported to experience differences in quality of life, peer functioning, emotional regulation, anxiety and school functioning compared with healthy controls [15,16]. A 2026 study of girls with idiopathic central precocious puberty found higher rates of anxiety disorders together with differences in peer problems, emotional regulation and quality-of-life domains [16]. Another 2026 clinical study found that psychological problems increased across Tanner stages among girls receiving care for central precocious puberty [17].

For nursing practice, these findings have a clear message. Assessment should not stop after recording height, weight, Tanner stage and menstrual history. Nurses should also ask how the girl feels about her changing body, whether she is being teased, whether she understands menstruation, whom she talks to when worried, whether school attendance has changed and whether parents are providing appropriate support. Such assessment is particularly relevant to school nurses, paediatric nurses, community health nurses, adolescent-health nurses and nurses working within multidisciplinary endocrine services.

Against this background, this narrative review examines recent evidence published between 2020 and 2026 concerning psychosocial problems and coping strategies among girls experiencing early pubertal development. Particular attention is given to depression, anxiety, body image, peer relationships, menstrual preparedness, quality of life, family support and the implications of these findings for nursing practice, school health and family-centred care.

METHODOLOGY

Review Design

A narrative review design was used to synthesize recent evidence concerning psychosocial problems and coping among girls with early-onset puberty. A narrative

approach was considered appropriate because the available literature is methodologically diverse and includes longitudinal cohort studies, cross-sectional studies, clinical case-control studies, systematic reviews, meta-analyses and qualitative investigations. The objective was not to calculate a pooled treatment effect but to interpret the evidence from a nursing and psychosocial perspective.

Only literature published between January 2020 and August 2026 was considered for the evidence synthesis. This restriction was deliberately applied to ensure that the review reflected contemporary understanding of pubertal timing, mental health, menstrual health, quality of life and family-centred care. Recent clinical reviews describe central precocious puberty as early activation of the hypothalamic–pituitary–gonadal axis and emphasize the need for appropriate endocrine evaluation and individualized management [1,5].

Information Sources

The literature search was developed for PubMed/MEDLINE, Scopus, Web of Science, CINAHL, PsycINFO and Google Scholar. PubMed was used particularly for identification of biomedical and psychosocial studies indexed using Medical Subject Headings (MeSH). Additional database searches were intended to identify nursing, public-health, psychological and school-health literature that may not be fully

represented in biomedical databases show in table 1. The search strategy combined controlled vocabulary with free-text terms. Because different researchers use “precocious puberty,” “early puberty,” “early pubertal timing,” “early maturation” and “early menarche” somewhat differently, these terms were searched together rather than treating them as completely interchangeable concepts. This distinction is important because some psychosocial studies examine girls who are early relative to peers but do not necessarily meet the strict clinical definition of central precocious puberty.

Search Terms

The major search concepts included Precocious Puberty, Puberty, Menarche, Child, Adolescent, Mental Health, Depression, Anxiety, Body Image, Self-Esteem, Coping, Social Support, Family, Schools, School Health Services and Quality of Life. The principal search combination was: ("Precocious Puberty" OR "Early Puberty" OR "Early Pubertal Timing" OR "Early Maturation" OR "Early Menarche") AND ("Girls" OR "Female" OR "Preadolescent" OR "Child" OR "Adolescent") AND ("Psychosocial" OR "Mental Health" OR "Depression" OR "Anxiety" OR "Body Image" OR "Self-Esteem" OR "Coping" OR "Social Support" OR "Quality of Life").

Table 1. MeSH Terms and Search Concepts

Database	Key MeSH/Subject Terms	Short Search String
PubMed/MEDLINE	<i>Puberty, Precocious Puberty, Menarche, Mental Health, Depression, Anxiety, Body Image, Social Support</i>	("Precocious Puberty" OR "Early Puberty") AND ("Mental Health" OR Depression OR Anxiety OR "Body Image" OR Coping)
Scopus	TITLE-ABS-KEY terms	("precocious puberty" OR "early puberty" OR "early menarche") AND (psychosocial OR depression OR anxiety OR "body image" OR coping)
Web of Science	Topic terms	TS=("precocious puberty" OR "early puberty") AND TS=(psychosocial OR depression OR anxiety OR coping OR "body image")
CINAHL	CINAHL Headings	("Precocious Puberty" OR "Early Puberty") AND (psychosocial OR mental health OR coping OR "school health")
PsycINFO	Subject headings/keywords	("early puberty" OR "precocious puberty") AND (depression OR anxiety OR coping OR "self-esteem" OR psychosocial)
Google Scholar	Free-text keywords	"early puberty" AND girls AND psychosocial AND coping

The search terms in Table 1 were combined using Boolean operators AND and OR. Recent systematic reviews of menstrual-health interventions were additionally examined because menstrual preparedness represents a practical psychosocial issue for girls who menstruate earlier than their classmates.

Eligibility Criteria

Studies were included when they were published between 2020 and 2026 and involved girls or female adolescents with early pubertal development, early menarche or clinically diagnosed central precocious puberty. Studies

were eligible when they reported at least one psychosocial outcome, including depression, anxiety, emotional or behavioural problems, body image, self-esteem, peer relationships, school functioning, coping, quality of life or family experiences.

Studies examining biological determinants of puberty were used only when they contributed to understanding the context of early pubertal development. For example, contemporary research has identified associations between rapid early-life weight gain and central precocious puberty

in girls. Such evidence was not interpreted as evidence that body weight directly causes psychosocial problems.

Studies published before 2020 were excluded from the primary evidence synthesis. Older studies were therefore not used to support the findings, discussion or evidence table. This approach deliberately prioritizes contemporary evidence.

Data Extraction

For each eligible study, information was extracted under the following headings: author, year, country, research domain, objective, design, population and sample, sampling technique, data-collection instrument, principal results and conclusion. Because of substantial differences between studies in age groups, definitions of early puberty, measurement instruments and outcomes, statistical pooling was not attempted. Instead, the findings were organized into major themes: emotional distress and depression, anxiety, body image, peer and school experiences, coping, menstrual health, family relationships and quality of life.

Synthesis Approach

The findings were interpreted with particular attention to the distinction between early pubertal timing and clinically diagnosed central precocious puberty. This distinction is important because a girl may experience psychosocial

difficulties from being substantially earlier than her peers without having an endocrine disorder requiring treatment. Conversely, girls with clinically diagnosed central precocious puberty may experience concerns related not only to the timing of puberty but also to medical investigations, treatment and parental anxiety [5,14].

RESULTS

Overview of Recent Evidence

The literature published between 2020 and 2026 indicates that early pubertal timing is associated with a range of psychosocial outcomes, although the strength of the association varies. The most consistent findings concern internalizing symptoms, including depressive and anxiety symptoms, while evidence relating to body image, peer relationships and quality of life is also increasingly available [6,8,9,15,16].

The evidence base is geographically diverse, with studies from the United States, Europe, Asia, the Middle East and other settings. Large longitudinal cohorts provide information about pubertal timing and subsequent mental health, whereas clinical studies of girls with central precocious puberty provide more detailed information about quality of life and emotional functioning. A summary of representative recent studies is presented in Table 2.

Table 2. Recent Evidence on Psychosocial Problems and Coping Strategies Among Girls with Early Pubertal Development, 2020–2026

Author	Year	Country	Domain	Objective	Research methodology : design, population/sample, technique, data-collection tool	Results	Conclusion
Gangat & Radovick	2020	USA	Precocious puberty	Review contemporary diagnosis and management of PP	Narrative review; clinical literature; literature-based synthesis	Described clinical presentation, evaluation and management of PP	Early recognition and appropriate referral are essential [1]
Sood et al.	2020 /2022	International	Menstrual health	Examine menstrual health as a health and rights issue	Systematic review; multidisciplinary literature; structured database search	Identified educational, social and environmental barriers to menstrual management	Menstrual health requires education, resources and supportive environments [12]
Zhang et al.	2020	China	Depression/puberty	Examine predictive relationship between pubertal	6-year prospective cohort; 1,909 adolescents, including 857	Pubertal timing predicted depressive symptoms	Pubertal timing may contribute to later emotional

				timing and depressive symptoms	girls; repeated questionnaires	more clearly among girls	vulnerability [7]
Deardorff et al.	2021	USA	Mental health	Examine timing/tempo of puberty and mental health	Longitudinal cohort; 822 girls recruited at 6–8 years and followed for 8 years; physical examination and repeated mental-health measures	Earlier breast development related to higher depressive symptoms in White girls and anxiety symptoms in Latina girls; effects differed by ethnicity	Associations are heterogeneous and culturally/contextually influenced [6]
Turan & Akca	2021	Türkiye	Quality of life	Compare QoL of children with PP and healthy children	Comparative descriptive study; 105 children with PP and 105 controls; standardized QoL questionnaire	QoL differences were identified between children with PP and controls	QoL should be considered during clinical care [15]
Evans et al.	2022	UK/International	Menstrual education	Evaluate educational interventions for menstrual health	Systematic review/meta-analysis; intervention studies; MMAT assessment	Educational interventions improved menstrual knowledge and several menstrual-health outcomes	Menstrual education is an important school-health intervention [11]
Barendse et al.	2022	USA/International	Internalizing symptoms	Examine pubertal timing and internalizing psychopathology using multiple measures	Longitudinal study; 174 girls aged 10–13; self/parent reports, hormones and clinical interviews	Associations varied according to how pubertal timing and psychopathology were measured	Measurement approach influences observed relationships [19]
Sood et al.	2022	International	Menstrual health	Review menstrual health and hygiene management as a rights issue	Systematic review	Identified gaps in knowledge, products, sanitation and supportive environments	Menstrual health should be integrated into adolescent health policy [12]
Sicilia et al.	2023	Spain	Body image/physical activity	Examine pubertal timing, social physique anxiety and exercise	Longitudinal/observational adolescent study; early adolescent girls;	Pubertal timing and tempo were relevant to social physique	Coping and body-image support should accompany puberty

					validated psychosocial and activity measures	anxiety and exercise-related outcomes	education [10]
Niu et al.	2023	USA	Mental health/social context	Examine pubertal timing, neighborhood income and mental health	Longitudinal ABCD cohort; 9,201 youth; parent/youth pubertal reports and mental-health assessments	Earlier timing in girls associated with more internalizing and externalizing symptoms	Biological timing interacts with social context [8]
Yu et al.	2023	China	Brain/psychological mechanisms	Examine brain functional changes associated with CPP	Resting-state fMRI; girls with CPP and controls	Neuroimaging differences were observed in girls with CPP	Biological and psychological pathways warrant further study [20]
Yoshii et al.	2023	Japan	Neurodevelopment	Examine structural brain characteristics in CPP	MRI-based case-control study; 15 CPP girls and 13 controls	Structural differences were identified in selected brain regions	Findings support further investigation of neurodevelopmental correlates [21]
Raafat et al.	2024	Egypt	QoL/behaviour	Assess QoL and behavioural problems in CPP	Case-control; 30 CPP children and 30 controls; PedsQL and CBCL	CPP was associated with differences in QoL and behavioural domains	Psychosocial outcomes should be included in CPP assessment [16]
Betsu et al.	2024	Low- and middle-income countries	Menstrual hygiene	Evaluate menstrual-hygiene interventions for schoolgirls	Systematic review; 16 intervention trials	Interventions improved menstrual knowledge, practices, emotional wellbeing and educational outcomes	Effective programmes need education plus environmental and social support [13]
Tarif et al.	2025	UK	Body image	Examine pubertal timing, body dissatisfaction and self-image	Prospective cohort; 6,644 ALSPAC participants; validated body-image measures	Earlier menarcheal timing was associated with greater body dissatisfaction and feeling different	Body-image assessment is relevant during early pubertal development [9]
Zhang et al.	2025	International	Depression	Update evidence on at	Systematic review/meta-analysis;	Early menarche associated	Early menarche may be a

				menarche and depression	138,819 participants from 11 studies	with modestly increased risk of later depression; evidence certainty was low	marker of depression vulnerability [22]
Høst et al.	2026	Denmark	Mental health	Examine pubertal timing and internalizing/externalizing symptoms	Population-based cohort; repeated developmental assessments	Pubertal timing was associated with emotional and behavioural outcomes	Pubertal timing should be considered alongside earlier psychosocial characteristics [23]
Jensen et al.	2026	Denmark	Anxiety	Examine pubertal timing/tempo and anxiety	Population-based follow-up cohort; repeated pubertal assessments and anxiety outcomes	Earlier/faster development tended to be associated with greater anxiety risk among girls	Early/fast puberty may identify girls who benefit from targeted support [24]
Wilaiwongasathien et al.	2026	Thailand	Family/psychological impact	Examine perceptions and psychological effects of CPP/early normal puberty	Clinical observational study of girls and caregivers	Identified psychological concerns affecting girls and caregivers	Family experiences should be incorporated into clinical management [14]
Recent idiopathic CPP study	2026	Türkiye	Anxiety/QoL	Compare psychosocial characteristics of girls with idiopathic CPP and controls	Case-control; 21 CPP girls and 22 controls; KSADS-PL, RCADS and PedsQL	Higher anxiety and differences in emotional regulation, peer functioning and QoL were observed	Psychiatric and psychosocial assessment should begin at diagnosis [25]
Jin & Wang	2026	China	Behavioural/psychological problems	Examine psychological burden across Tanner stages in CPP	Retrospective clinical study; 116 girls treated between 2020–2024; CBCL, CDI and anxiety screening	Clinically significant psychological problems increased across Tanner stages	Psychosocial monitoring should continue throughout pubertal progression [26]
Abbreviation PP: precocious puberty; CPP: central precocious puberty; QoL: quality of life; PedsQL: Pediatric Quality of Life Inventory; CBCL: Child Behavior Checklist; ABCD: Adolescent Brain Cognitive Development; ALSPAC: Avon Longitudinal Study of Parents and Children							

Depression and Emotional Distress

Depressive symptoms were among the most frequently examined outcomes in recent research. The evidence does

not suggest that early puberty automatically results in depression. Instead, girls who mature earlier appear to have a somewhat greater vulnerability, particularly when other psychological or social stressors are present.

Deardorff et al. followed 822 girls from childhood into adolescence and found that earlier breast development was associated with higher depressive symptoms in White girls and higher anxiety symptoms in Latina girls, whereas some associations differed among Asian girls [6]. These findings are important because they demonstrate that the psychosocial meaning of early puberty is not uniform across ethnic or cultural groups.

A six-year prospective cohort study involving 1,909 adolescents also reported a relationship between pubertal timing and later depressive symptoms that was more evident among girls [7]. More recently, a meta-analysis incorporating 138,819 participants found that early menarche was associated with a modest increase in later depression risk, with an odds ratio of 1.11 compared with on-time menarche; however, the authors rated the certainty of evidence as very low [22]. The recent evidence therefore supports cautious clinical interpretation. Early puberty may be considered a risk marker, rather than a diagnosis of psychological disorder. Nurses should screen rather than assume.

Anxiety and Emotional Regulation

Anxiety is increasingly recognized as another relevant concern. In a recent clinical study, girls with idiopathic central precocious puberty had significantly higher rates of anxiety disorders than healthy controls, with additional differences in social phobia, separation anxiety and emotional regulation [25].

Population-level evidence provides a similar, although not completely consistent, picture. A Danish follow-up study reported that earlier timing and faster tempo of pubertal development tended to be associated with greater risk of anxiety symptoms and anxiety disorders among girls [24]. This suggests that nurses should pay attention not only to depressive symptoms but also to excessive worry, fear of social situations, avoidance of school activities and distress about physical changes.

Emotional regulation is particularly relevant in preadolescent girls because they may not have the vocabulary or emotional skills needed to describe their experience. A girl who becomes irritable, withdrawn or unusually tearful may be experiencing distress rather than simply “adjusting to puberty.”

Body Image and Self-Esteem

Body image is a practical concern that nurses can identify early. Pubertal changes occur quickly and can alter the child's perception of her body. Early development can make the girl feel visibly different from classmates, particularly when breast development or body shape changes occur before similar changes are seen among peers.

The 2025 prospective UK cohort study involving 6,644 participants found associations between pubertal timing and body dissatisfaction and self-image among girls [9]. In addition, research involving early adolescent girls has examined social physique anxiety and exercise-related

motivation, emphasizing the importance of helping girls cope with appearance-related concerns during puberty [10].

For nursing practice, the implication is straightforward: conversations about early puberty should include how the girl feels about her changing body. Nurses should avoid language that suggests her body is “wrong” or that she should change her weight to prevent puberty. Body-neutral and developmentally appropriate communication is preferable.

Peer Relationships and School Experience

Being physically different from classmates can change the social experience of school. Some girls may become targets of teasing or unwanted attention, while others may withdraw because they feel uncomfortable changing clothes for physical education or participating in activities where their body is visible.

The cohort study, involving 9,201 children, found that earlier pubertal timing in girls was associated with greater internalizing and externalizing symptoms [8]. Although the study was not specifically designed to investigate bullying, its findings reinforce the importance of considering the social environment alongside biological maturation.

School health professionals are well positioned to identify these problems because they see children in their everyday environment. A nurse may notice repeated visits for vague physical complaints, changes in attendance, reduced participation in physical education, social withdrawal or frequent requests to go home. Such observations may be clinically meaningful when considered alongside early pubertal development.

Menstrual Preparedness

Early menarche deserves particular attention because it introduces practical responsibilities earlier than expected. A preadolescent girl may need to understand menstrual bleeding, sanitary-product use, hygiene, menstrual pain and what to do if bleeding occurs unexpectedly at school.

The systematic review by Evans et al. found that educational interventions can improve menstrual knowledge and several aspects of menstrual-health management [11]. Evidence from a 2024 systematic review of 16 intervention trials further showed benefits in menstrual knowledge, attitudes, practices, emotional wellbeing and educational outcomes [13]. These findings are especially relevant to early-maturing girls. Menstrual education should not be based only on school grade. Girls who demonstrate signs of early puberty should receive information before menarche, in a private and age-appropriate manner.

Coping Strategies

Compared with depression and anxiety, coping has received less direct attention in recent studies. Nevertheless, the available evidence suggests that coping should be considered an important part of psychosocial assessment.

A healthy coping response may include asking questions, talking to parents or trusted adults, maintaining friendships, seeking information, using relaxation strategies and finding practical solutions to menstrual or school-related problems. Less helpful responses may include persistent avoidance, social withdrawal, excessive worry or hiding symptoms. The research on social physique anxiety and pubertal development also suggests that girls may alter physical-activity behaviour in response to concerns about appearance [10]. This has practical implications. Nurses should encourage girls to remain physically active for health and enjoyment rather than allowing embarrassment about body changes to restrict participation.

Family and Caregiver Experiences

Early puberty affects the family as well as the child. Parents may be concerned about whether the development is normal, whether treatment is necessary, whether menstruation will occur early and how they should discuss these issues with their daughter.

Recent research examining perceptions of central precocious puberty and early normal puberty among Thai girls and caregivers highlighted psychological concerns affecting both children and caregivers [14]. This reinforces the need for family-centred care rather than focusing solely on the child. Parents need clear information about the difference between physical and emotional maturity. A girl who looks older should not automatically be expected to behave like an older adolescent. Maintaining normal play, school activities and age-appropriate responsibilities can help preserve a sense of normal childhood.

Quality of Life

Quality of life provides a broader assessment than individual symptoms. It captures physical, emotional, social and school functioning and may reveal difficulties that are missed by routine clinical assessment.

A Turkish comparative study involving 105 children with precocious puberty and 105 healthy children identified differences in quality-of-life outcomes [15]. A 2024 Egyptian case-control study similarly examined quality of life and behavioural problems in children with central precocious puberty and demonstrated the importance of psychosocial outcomes in clinical management [16,33]. Recent evidence from Türkiye further demonstrated differences in physical and school functioning, peer relationships and emotional regulation among girls with idiopathic central precocious puberty [25-30]. These findings suggest that quality-of-life assessment can provide a practical bridge between endocrine treatment and psychosocial nursing care.

Psychological Burden Across Pubertal Development

An important recent finding comes from a 2026 retrospective clinical study involving 116 girls with central precocious puberty. Clinically significant psychological problems increased from approximately 22% in girls at Tanner stage II to approximately 62% among those at Tanner stages IV–V, with internalizing symptoms showing

a particularly clear pattern [26,32,34]. This finding should not be interpreted as proof that pubertal progression itself causes psychological illness. Rather, it suggests that psychosocial assessment should continue over time. A single assessment at diagnosis may not identify problems that emerge as physical changes become more pronounced.

DISCUSSION

The evidence published between 2020 and 2026 supports the view that early-onset puberty is not simply an endocrine issue. It is a developmental event that can influence how a girl understands her body, interacts with peers, manages school, communicates with parents and responds to emotional stress. At the same time, the evidence does not justify assuming that every girl with early puberty will develop a psychological disorder. The most appropriate interpretation is that early maturation can increase vulnerability in the presence of other biological, psychological and social factors [6-8].

One of the strongest messages from recent research is the importance of developmental mismatch. Physical maturation may progress rapidly while emotional maturity remains age appropriate. This can create confusion for the child and for adults around her. A girl may be expected to understand menstruation, sexuality or body changes simply because she looks older. Nurses should actively address this mismatch during education and counselling.

The evidence on depression is reasonably consistent but should be interpreted carefully. Prospective studies have reported associations between earlier puberty and depressive symptoms [6,7], while the 2025 meta-analysis found only a modest association between early menarche and later depression and rated the overall evidence as very low certainty [22]. This means that early pubertal development should prompt awareness and screening, not automatic psychiatric labelling.

Anxiety may be particularly important in girls with clinically diagnosed central precocious puberty. Recent clinical research found increased anxiety disorders and problems with social phobia, separation anxiety and emotional regulation [25]. The Danish population study also suggests that earlier and faster puberty may be associated with anxiety outcomes in girls [24]. These findings support the inclusion of anxiety questions in routine nursing assessment.

The social environment deserves equal attention. Earlier puberty occurs within families, classrooms and peer groups rather than in isolation. The recent study showed that earlier pubertal timing among girls was associated with both internalizing and externalizing problems [8,31,32]. Socioeconomic and neighbourhood factors may shape the circumstances in which puberty is experienced, although they do not fully explain the relationship.

Body image is another area where nursing intervention can be practical and preventive. The 2025 UK cohort study provides contemporary evidence that pubertal timing is

related to body dissatisfaction and perceptions of appearance and difference [9]. Nurses should therefore avoid making early puberty a conversation primarily about weight. Instead, they should normalize variation in body development and help girls understand that bodies do not mature according to a single timetable.

School health has an especially important role because menstruation may occur before a girl expects it. Menstrual-health education interventions have demonstrated improvements in knowledge and menstrual practices [11,13,33]. For early-maturing girls, education should be anticipatory. Waiting until menarche has already occurred may leave the girl unnecessarily frightened or embarrassed.

A practical school-based programme could include short, age-appropriate sessions on physical changes, menstruation, hygiene, emotional reactions, body image, bullying and help-seeking. The programme should allow private questions rather than relying entirely on group teaching. Nurses can also provide individual counselling for girls who are uncomfortable discussing puberty in front of classmates.

Family-centred care is equally important. Parents need reassurance but also practical guidance. They should understand that physical maturity does not mean emotional maturity. They should be encouraged to maintain open communication, answer questions honestly and avoid criticism of body shape or appearance. Recent evidence involving girls and caregivers indicates that psychological effects may extend beyond the child to the family system [14].

Coping should be incorporated into nursing care rather than treated as an optional addition. A useful nursing conversation can ask: “What worries you most about these changes?”, “Who do you talk to when you are worried?”, “What would help you feel more comfortable at school?” and “What do you do when you feel embarrassed?” These questions are simple but can reveal social isolation, bullying, anxiety or lack of support.

Quality of life should also be monitored. Studies from Türkiye and Egypt indicate that children with precocious puberty may experience differences in physical, school, emotional and behavioural domains [15,16]. A quality-of-life approach is useful because it shifts attention from whether the endocrine condition has been controlled to whether the child is actually functioning well.

The recent 2026 evidence is particularly relevant to longitudinal nursing care. Psychological difficulties appeared to increase with advancing Tanner stage in one clinical cohort [26], while another 2026 study identified anxiety, emotional-regulation and peer difficulties at the time of diagnosis [25,34,35]. Together, these findings suggest that psychosocial assessment should be repeated rather than performed only once.

The nursing role can therefore be organized around six practical areas: early identification, emotional assessment,

body-image support, menstrual preparedness, family education and referral. Nurses should collaborate with paediatric endocrinologists, psychologists, school counsellors, teachers and parents when problems extend beyond routine nursing support.

At the same time, treatment decisions should remain medically individualized. Contemporary reviews emphasize that gonadotropin-releasing hormone analogue therapy is primarily directed toward controlling premature pubertal progression and optimizing growth-related outcomes, while psychological effects and patient experience require additional consideration [5,36-38]. Nurses can support treatment adherence and monitor psychosocial wellbeing without presenting endocrine treatment as a guaranteed solution to psychological difficulties.

An important limitation of the current evidence is that relatively few studies directly test nurse-led coping interventions in girls with early-onset puberty. Much of the available literature describes associations rather than evaluating specific psychosocial programmes. There is also considerable variation in how “early puberty” is defined and how psychological outcomes are measured [19]. Consequently, future nursing research should move from identifying problems toward testing practical interventions.

Overall, the evidence supports a shift from a narrowly biomedical model to a biopsychosocial and family-centred model of care. The aim should not simply be to delay physical maturation but to ensure that girls understand what is happening, feel comfortable asking questions, remain engaged with school and peers, and receive support when emotional difficulties arise.

Strengths and Limitations

A major strength of this review is its exclusive focus on contemporary evidence published from 2020 to 2026, allowing current psychosocial, clinical and school-health perspectives to be integrated. The review also considers early puberty from biological, psychological, family and educational perspectives. However, substantial heterogeneity in definitions, populations, measurement instruments and study designs limits direct comparison between studies. Much of the evidence remains observational, limiting causal interpretation, and relatively few studies directly evaluate nurse-led coping interventions.

RECOMMENDATIONS

Girls presenting with early-onset puberty should receive routine psychosocial assessment alongside physical and endocrine evaluation. Nursing assessment should include anxiety, depressive symptoms, body image, self-esteem, peer relationships, bullying, school functioning, menstrual preparedness and coping. Nurses should provide individualized puberty and menstrual-health education before menarche, involve parents in supportive communication, and coordinate with schools to ensure confidentiality, menstrual resources and protection from

bullying. Girls with persistent or clinically significant psychological symptoms should receive timely multidisciplinary referral.

Future Directions

Future studies should use longitudinal designs to clarify how early pubertal timing influences psychosocial wellbeing from childhood through adolescence. Research should give greater attention to culturally diverse and low-resource populations, particularly South Asian settings. Nurse-led interventions addressing coping, body image, menstrual preparedness, bullying and family communication should be developed and tested. Future work should also evaluate digital and school-based support programmes, validate age-appropriate psychosocial screening tools, and examine whether repeated psychosocial assessment improves quality of life and early identification of mental-health difficulties.

CONCLUSION

Early-onset puberty can be a challenging experience for a preadolescent girl because physical development may occur before she feels emotionally or socially prepared. Contemporary evidence from 2020–2026 suggests associations with depressive symptoms, anxiety, body dissatisfaction, peer difficulties, school concerns and reduced quality of life, although these relationships are influenced by individual and social factors. The most appropriate response is therefore not to medicalize every emotional reaction but to provide early, developmentally sensitive support. Nurses can play a central role by recognizing psychosocial difficulties, preparing girls for menstruation, supporting healthy coping, strengthening family communication and coordinating school and specialist services. A family-centred, school-sensitive and biopsychosocial model is likely to provide more meaningful care than an approach focused only on physical pubertal progression.

DECLARATIONS

Author Contributions: All authors contributed to the conception, literature search, interpretation of evidence, drafting, critical revision, and final approval of the manuscript.

Conflict of Interest: The authors declare no conflicts of interest.

Funding: No specific funding was received for this work.

Ethical Approval: Not applicable; this narrative review used previously published literature and did not involve human participants.

Data Availability: No new datasets were generated. All information was derived from published literature.

Consent for Publication: Not applicable.

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