



Eating Disorders in Youth: A Systematic Review of Clinical Profile, Prevalence, and Psychosocial Impacts

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Abstract

Eating disorders (EDs), including anorexia nervosa (AN), bulimia nervosa (BN), and binge-eating disorder (BED), are serious psychiatric conditions increasingly affecting adolescents and young adults. This systematic review synthesized evidence on prevalence, age at onset, developmental trajectories, comorbidities, and healthcare disparities following PRISMA 2020 and MOOSE guidelines. Eighteen quantitative and mixed-methods studies published during 2016–2025 were identified through PubMed, Google Scholar, and PsycINFO using predefined eligibility criteria. Lifetime prevalence in Western countries was 0.16% for AN, 0.63% for BN, and 1.53% for BED. Prevalence was substantially higher among females (8.6–17.9%) than males (2.2–4.1%). Typical onset occurred at 10–20 years for AN, 13–20 years for BN, and 12–24 years for BED. BMI trajectories diverged early: AN was associated with lower BMI by age 4 in girls and age 2 in boys, whereas BN and BED were linked to higher BMI by age 6. Trauma, particularly sexual and emotional abuse, increased the likelihood of binge–purge presentations (OR = 2.47). Depression, anxiety, and obsessive-compulsive symptoms were more severe in binge–purge AN and BN than in restrictive AN. BED and subthreshold BED impaired quality of life, while AN increased healthcare utilization. Stigma intensified isolation across subtypes. These findings support early screening, trauma-informed care, and culturally responsive services. Further longitudinal, community-based research is needed.

Keywords: Eating disorders, Adolescent health, Young adults, Anorexia nervosa, Bulimia nervosa, Binge-eating disorder, Psychiatric comorbidity

Abbreviations: **AN:** Anorexia Nervosa, **BED:** Binge-eating disorder, **BN:** Bulimia Nervosa, **AN-R:** Restricting Anorexia Nervosa, **DSM-5:** Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, **ED:** Eating Disorder, **ARFID:** Avoidant Restrictive Food Intake Disorder



1. Introduction

Feeding and eating disorders (EDs) are serious mental health conditions marked by persistent disturbances in eating behaviors and distressing thoughts or emotions related to food and body image. Although EDs were first clinically recognized in the 1970s, understanding of their complexity has grown considerably, with evolving diagnostic classifications over time. The text revision of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5-TR), currently categorizes anorexia nervosa (AN), bulimia nervosa (BN), binge-eating disorder (BED), avoidant/restrictive food intake disorder (ARFID), rumination disorder, and pica as the primary forms of EDs (APA, 2022).

Global surveillance data indicate that diagnosed ED cases have risen sharply among youth over the past decade, reflecting both increased detection and a genuine rise in incidence. Lifetime prevalence in Western countries is estimated at 0.16% for AN, 0.63% for BN, and 1.53% for BED (Keski-Rahkonen, 2021; Qian et al., 2022). A 2023 meta-analysis found that nearly 1% of children under 18 years met the criteria for an ED, with 0.6% diagnosed with AN and 0.1% with BN. Furthermore, disordered eating behaviors now affect as many as 1 in 5 individuals aged 11-25 years. Among females aged 5-30 years, lifetime prevalence rates of DSM-5-classified EDs range from 8.6% to 17.9%, compared with 2.2% to 4.1% among males (APA, 2022).

Each ED subtype follows a unique clinical trajectory. AN often begins between 10 and 20 years of age, peaks around 15 years, and is characterized by intense fear of weight gain, distorted body image, and severe dietary restriction. AN is predominantly identified in female populations and carries severe health consequences, including cardiac complications and bone depletion (Silén & Keski-Rahkonen, 2022; Wall et al., 2024). It is also the most medically severe eating disorder subtype, with the highest mortality rates and frequent psychiatric comorbidities (Fricke & Voderholzer, 2024). BN is a cyclical eating disorder that usually begins between 13 and 20 years of age and is characterized by binge-eating episodes followed by compensatory behaviors such as purging or excessive exercise. It may cause gastrointestinal damage, electrolyte imbalance, and dental erosion. BED, the most common ED worldwide, often develops between 12 and 24 years of age and is strongly associated with psychological distress, secondary metabolic disorders, and obesity (Keski-Rahkonen, 2021).

ARFID involves limited food variety or intake volume without body-image concerns, whereas other specified feeding or eating disorder (OSFED) is a DSM-5 category for individuals with serious eating-related symptoms and distress whose symptoms do not fully match the defined criteria for AN, BN, or BED (APA, 2022). Atypical anorexia and purging disorder are considered other specified EDs; they may affect up to 11.5% of young females and are often underdiagnosed (Silén & Keski-Rahkonen, 2022). Although other specified EDs are usually more common in females, gender patterns differ by subtype, and some presentations do not follow the usual female predominance. Recent research, including Hebebrand et al., suggests that AN and atypical AN may lie on a shared continuum, indicating that restrictive eating behaviors can occur at any body weight and in any gender and should not be overlooked (Hebebrand et al., 2024). However, neither ARFID nor OSFED is the main focus of this review; relevant comparative data are retained where available.



The etiology of EDs is complex. Biological factors include genetic predisposition, neurochemical dysregulation, and early childhood weight changes (Liebman et al., 2020). ED risk is further aggravated by psychological factors such as low self-esteem, trauma, and perfectionism (Hambleton et al., 2022). Environmental conditions, including social-media exposure, internalization of thinness ideals, and culturally complex family processes, are now recognized as central to the development and maintenance of EDs. Although global awareness of EDs among young people is increasing, the evidence remains scattered across diagnostic types and developmental stages.

While awareness of EDs in youth is growing globally, existing research remains scattered across isolated diagnostic frameworks and age brackets. Most studies evaluate these conditions separately, creating a major gap in understanding the intersection of clinical, developmental, psychological, and systemic factors in AN, BN, and BED among youth. This paper addresses these empirical limitations by synthesizing recent post-DSM-5 findings on prevalence, BMI trends, age of onset, symptom persistence, psychiatric comorbidities, and barriers to care. The primary focus is on AN, BN, and BED, with comparative insights on atypical AN, other specified EDs, and ARFID included where relevant for contextual clarity.

2. Methodology

This systematic review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 framework, which ensures transparency and reproducibility in study selection, data extraction, and reporting (Page et al., 2021). Because the included studies were observational and the review focused on exposures and outcomes rather than interventions, the Meta-analysis of Observational Studies in Epidemiology (MOOSE) checklist was applied to strengthen methodological rigor in reviewing epidemiological literature (Brooke et al., 2021). The review aimed to summarize quantitative and mixed-methods studies examining AN, BN, and BED, with comparative inclusion of atypical AN, ARFID, or other specified disorder presentations when directly analyzed against these three. The focus was on adolescents and young adults, specifically prevalence, BMI trajectories, age of onset, symptom duration, psychiatric comorbidities, and barriers to care. Studies were included if they used recognized diagnostic systems, such as DSM-5 or ICD-10, or validated tools for assessing ED symptoms, body image, or psychiatric comorbidity. This approach ensured diagnostic consistency without restricting inclusion to a single instrument.

2.1 Eligibility Criteria

The eligibility criteria for this review were developed using PRISMA 2020 and MOOSE guidelines to ensure a transparent and consistent selection process. Journal impact factor was not used as a restriction. Instead, publications in peer-reviewed, indexed journals were required to ensure that included studies met basic standards of methodological transparency, ethical review, and reporting quality. Studies with at least 50 participants were selected to improve the reliability of the findings, with particular focus on designs comparing two or more eating-disorder groups, as this enabled meaningful synthesis across diagnostic subtypes.

To capture the developmental progression of EDs, participants up to 30 years of age were included. Although this upper limit reflected the transition from adolescence into emerging adulthood, most included studies (14 out of 18) focused on adolescents under 18 years. Therefore, adolescent-only findings were examined separately where possible to identify key developmental patterns. The search window (2016-2025) was chosen to ensure that included studies reflected DSM-5 diagnostic definitions and to reduce variability in disorder classification. Detailed inclusion and exclusion criteria are summarized in Table 1.

Table 1. Eligibility criteria of systematic review

Criteria	Inclusion	Exclusion
Publication Type	Peer-reviewed journal articles	Reviews, meta-analyses, editorials, commentaries, conference abstracts, books, and non-peer-reviewed sources
Study Objective	Investigate the impact of AN, BN, and BED on adolescents and young adults, with explicit focus on prevalence, symptom presentation, weight/BMI trajectories, psychiatric comorbidities, and access-to-care disparities. Comparative findings involving other specified disorders, atypical AN, purging disorder, or ARFID were included only when reported within eligible studies.	Studies focusing exclusively on non-ED conditions, prevention programs without clinical outcomes, or unrelated psychiatric disorders.
Design / Methodology	Quantitative or mixed-methods designs with standardized diagnostic criteria (e.g., DSM-5 or ICD-10) or validated screening tools.	Qualitative studies, scoping or systematic reviews, case reports, clinical trials, randomized controlled trials, studies without clear diagnostic or screening criteria.
Time Frame	Published between 2016 and 2025	Published before 2016
Language	English	Non-English publications
Population	Adolescents and young adults up to 30 years	Studies focused exclusively on adults >30 years
Sample Size	≥50 participants	<50 participants

2.2 Search Strategy

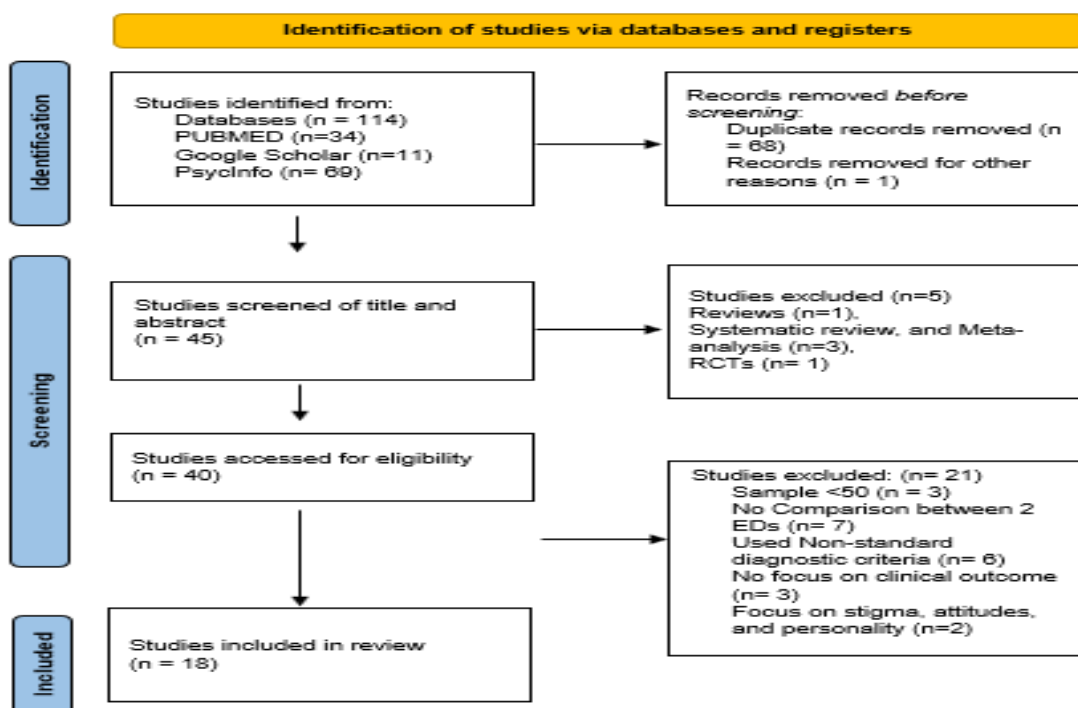
The literature search was conducted in three databases: PubMed, Google Scholar, and PsycINFO. Medical Subject Headings (MeSH) and keyword combinations such as "adolescent," "eating disorder," "anorexia nervosa," "bulimia nervosa," "binge eating disorder," "comparison," "comparative study," and "young adults" were used to facilitate the search. Boolean operators and title-specific search tags (e.g., allintitle:) were applied to capture relevant variations. Citations were managed in EndNote, which was used to identify and remove duplicates.

2.3 Study Selection

Titles and abstracts were independently screened by two reviewers against the eligibility criteria. Full texts of potentially eligible articles were retrieved and reviewed in duplicate by both reviewers. Disagreements were resolved by re-examining the original articles and reaching consensus through discussion. The selection process is illustrated in the PRISMA flow diagram (Figure 1).

Figure 1. PRISMA flow chart for the screening and identification of studies

Figure 1. PRISMA 2020 flow diagram showing study identification, screening, eligibility, and inclusion. Database searches returned 114 records; 68 duplicates were removed and 1 record was removed for other reasons, leaving 45 records for title/abstract screening. Forty full-text articles were assessed for eligibility, and 18 studies met the inclusion criteria and were included in the review.



2.4 Data Extraction

A structured data-extraction form was developed to collect variables such as sample size, geographic location, and population characteristics (age and sex), as presented in Table 2. Extracted data summarized the diagnostic tools, psychometric instruments, types of EDs compared, prevalence rates, BMI trajectories, comorbid conditions, and treatment-access details. One reviewer conducted data extraction independently, and the extracted information was fully cross-checked and independently verified by a second reviewer across the entire dataset. Discrepancies were resolved by re-examining the original articles. Studies with missing or insufficient data were excluded during the final review stage. Extended characteristics of included studies are presented in Table S1 in the supplementary data.

Table 2. Summary of included studies and key findings

Study (Year)	Country	Sample Size (Age)	Disorders Examined	Key Clinical Findings	Diagnostic Basis
Al Hourani et al. (2020)	Jordan	n = 1,001 (Mean: 16.8 years)	AN, BN, BED	BED was more common among individuals with dysglycaemia; older adolescents exhibited higher BN rates; sedentary behavior was inversely related to BN and BED risk.	EDDS
Andersen et al. (2023)	Denmark	n = 2,509 (16-17 years)	BED, Subthreshold BED	Subthreshold BED prevalence was 2.7%. Both full-syndrome BED and subthreshold BED were linked with depression, suicidality, and reduced quality of life.	DSM-5
Caspi et al. (2017)	Israel	n = 105 (15-25 years)	AN-Restrictive, AN-Binge/Purge, BN	Body-image disturbances differ significantly across ED phenotypes. Computerized screening tools distinguish ED	CDRS, CABI, EDI-2



				patients from healthy controls effectively.	
Couturier et al. (2023)	Canada	n = 1,449 (5-17 years)	AN, BN, BED	Higher mental-health service utilization was observed for all EDs; patients with AN had the highest inpatient and clinical visit rates.	Clinical/administrative diagnoses
Curzio et al. (2018)	Italy	n = 419 (7-18 years)	AN, BN	AN linked with dietary restriction whereas BN is linked with bulimic behavior. Purging subtypes are tied to affective/interpersonal issues; BED presentations appeared independent.	Clinical subtype classification
Lewis et al. (2019)	Israel	n = 209 (<18 years)	AN-restrictive, AN-binge/purge, BN	Binge-purge AN showed higher obsessive-compulsive disorder, depression, and ED severity at admission. All groups showed clinical improvement by discharge.	DSM diagnoses + Y-BOCS, BDI, EAT-26
Lie et al. (2021)	Norway	n = 890 (Mean: ~29 years)	Restricting vs. binge/purge spectrum	Trauma, including sexual and emotional abuse, was more common in binge-purge subtypes; exposure to multiple stressful life events (SLEs) increased the odds of EDs.	Self-report ED subtype + SLEs



Murakami et al. (2016)	USA	n = 318 (Mean: 21.6 years)	AN, BN, BED	AN and BN were the most stigmatized, BED was moderately stigmatized, and obesity was the least stigmatized; EDs were perceived as highly impairing.	Vignette-based
Reinehr et al. (2019)	Germany	n = 31,556 (12-18 years)	AN, BN, BED	EDs in Type 1 diabetes were linked to delayed puberty, insulin pump nonuse, higher HbA1c, diabetic ketoacidosis, and hypoglycemia; markers appeared soon after T1DM onset.	DPV registry diagnoses
Vázquez-Velázquez et al. (2017)	Mexico	n = 133 (15-19 years)	AN, BN, BED	Strongest behavioral correlations were observed in BED dyads; AN dyads showed inverse correlation, whereas BN showed moderate correlation, supporting disorder-specific behavioral transmission patterns.	Clinical diagnoses
Díaz Muñoz (2021)	Colombia	n = 1,545 (Mean: 19.2 years)	AN, BN	Overall, 27.6% of the group was classified as being at risk for an ED, with higher prevalence in females. Risk was directly linked to unhealthy dietary habits and appearance-driven exercise.	SCOFF, IPAQ



Sandri et al. (2024)	Spain	n = 9,692 (18-30 years)	AN, BN	AN prevalence was 1.04%, and BN prevalence was 0.73%. EDs were linked with poorer sleep, energy-drink and coffee use, and higher overall rates in females.	NutSo-HH Scale
Yilmaz et al. (2019)	UK	n = 1,502 (birth-18 years)	AN, BN, BED	AN trajectory diverged below controls by age 4 years. Conversely, BN, BED, and purging-disorder trajectories rose above controls by age 6 years. Early BMI divergence may signal early ED risk.	ALSPAC + ED diagnoses at 14,16,18
Yamamiya & Stice (2024)	USA	n = 492 (11-15 years)	AN, BN, BED	BN, BED, and purging disorder were predicted by thin-ideal pressure and low parental support; AN was predicted only by low BMI.	Annual diagnostic interviews
O'Connor et al. (2016)	Ireland	n = 290 (15-19 years)	AN, BN, BED	EDs are more stigmatized than depression/diabetes; BED is viewed as a lack of self-control.	Vignette-based
Zanna et al. (2021)	Italy	n = 346 (10-15 years)	AN-Restrictive, Atypical AN, ARFID	ARFID exhibited a distinct symptom profile and comorbidities compared with restrictive conditions, although shared vulnerabilities	DSM-5 + psychometrics

				existed across all groups.	
Ernst et al. (2017)	Germany	n = 1,654 (12-15 years)	AN, BN	DSM-5 criteria increased the prevalence of detection and improved clinical diagnostic differentiation.	DSM-IV vs. DSM-5
Burt et al. (2020)	Australia	5,068 (14-15 years)	AN, BN, other specified EDs	OSFED showed higher prevalence in First Nations youth. Across all diagnostic groups, EDs were linked to lower psychosocial quality of life.	DSM-5

2.5 Quality Assessment

Risk of bias was systematically assessed to evaluate the methodological quality of the included evidence using the Newcastle-Ottawa Scale (NOS). Two independent reviewers performed the quality appraisals across selection, comparability, and outcome/exposure assessment. Any disagreements were resolved through discussion until consensus was reached.

3. Results

3.1 Study Selection and Characteristics

The systematic search strategy identified 114 articles published between 2016 and 2025. After duplicates were removed and studies that did not meet the inclusion criteria were excluded, 18 studies were included in the final review (Fig. 1). The studies represented a broad geographical scope across 14 countries: USA (2 studies, n = 810), Italy (2 studies, n = 765), Israel (2 studies, n = 314), Denmark (1 study, n = 2,509), Canada (1 study, n = 1,449), Norway (1 study, n = 890), Germany (2 studies, n = 33,210), Mexico (1 study, n = 133), Colombia (1 study, n = 1,545), Spain (1 study, n = 9,692), the UK (1 study, n = 1,502), Ireland (1 study, n = 290), Jordan (1 study, n = 1,001), and Australia (1 study, n = 5,068). Most studies were conducted in high-income countries, except those from Jordan and Colombia, which represented middle-income settings and contributed to broader global representation.

The total sample size across the studies was 59,178 individuals (mean age 16.96 years; range: birth to <30 years). Based on available reporting, 77.1% of participants were female and 6.5% were male. In some studies, sex or gender was not reported or was unspecified for the remaining



participants. Included quantitative studies comprised cohort ($n = 5$), cross-sectional ($n = 6$), case-control ($n = 3$), longitudinal observational ($n = 2$), and experimental/vignette-based designs ($n = 2$). Most studies were conducted in clinical settings ($n = 12$, 66.7%), followed by university populations ($n = 5$, 27.8%) and one school-based setting ($n = 1$, 5.6%). The reviewed studies primarily compared AN, BN, and BED with respect to prevalence, psychiatric comorbidities, age of onset, early BMI trajectories, familial and environmental risk factors, and treatment barriers; studies that directly compared atypical AN, ARFID, or OSFED presentations were also retained. Two studies employed longitudinal designs (15, 16), providing insight into predictive factors and early markers of ED onset.

The included studies covered a broad age range, although most focused on adolescents ($n = 14$, 77.8%), with fewer examining young adults ($n = 4$, 22.2%). Sample sizes varied widely, from 105 participants (17) to 31,556 participants (18). All included studies used recognized diagnostic systems and validated psychometric or clinical assessment tools appropriate to their design. In terms of diagnostic focus, seven studies examined AN (38.8%), eight focused on BN (44.4%), and five focused on BED (27.7%). Some studies included mixed samples of adolescents and young adults or individuals with subthreshold ED symptoms. Most studies examined how ED behaviors were linked to mental-health concerns such as depression, anxiety, and suicidal ideation.

The Newcastle-Ottawa Scale (NOS) was used for risk-of-bias assessment and evaluates three domains: selection (up to 4 stars), comparability (up to 2 stars), and outcome/exposure (up to 3 stars). Studies scoring ≥ 7 stars were considered low risk, 5-6 stars moderate risk, and < 5 stars high risk. Of the 18 studies, 7 were rated as low risk, 10 as moderate risk, and 1 as high risk. Most studies were conducted in well-established clinical settings and used validated diagnostic methods, although some relied on subjective or self-reported data, increasing the likelihood of measurement and recall bias. A full breakdown of risk-of-bias ratings is provided in Table S2 in the supplementary material.

3.2 Clinical Differences

The synthesized findings are organized according to four primary analytical objectives: (1) clinical and behavioral characteristics, (2) developmental trajectories, (3) psychological and familial correlates, and (4) systemic disparities in access to care.

3.2.1 Restrictive Control and Cognitive Rigidity

Restrictive eating in AN, particularly in the restricting subtype (AN-R), is strongly linked to rigid thinking, inflexible food-related rules, and overcontrolled self-regulation. These traits manifest not only in behavior but also in perceptual processing. Adolescents with AN showed greater body-size overestimation on computerized tests than controls (Caspi et al., 2017). These distortions reinforce restrictive behavior by maintaining fear of weight gain even at low BMI. Developmental evidence suggests that restrictive tendencies may begin early. Children who later developed AN had already diverged from growth norms in early childhood, with significantly lower BMI by age 4 years in girls and by age 2 years in boys (Yilmaz et al., 2019). This pattern indicates that AN-R may reflect an overcontrolled self-regulation phenotype characterized by cognitive rigidity, fear of weight gain, and distorted body image.



3.2.2 Binge and Compensatory Behaviors

Unlike restrictive control, BN and BED are characterized by loss of control over eating and difficulty regulating emotions. BN involves repeated binge-eating episodes followed by compensatory behaviors such as purging or fasting, whereas BED involves binge eating without compensatory behaviors (Curzio et al., 2018). Symptom severity was more apparent in purging-type disorders (BN and binge-purge AN) than in AN-R, leading to greater distress, impulsive eating, and behavioral instability (Lewis et al., 2019). BED was also strongly linked with affect-regulation difficulties, negative mood, and higher metabolic risk. In both full-threshold and subthreshold BED, binge-episode frequency was the strongest predictor of psychological distress (Andersen et al., 2023; Vázquez-Velázquez et al., 2017). Medical vulnerabilities further shaped risk. Adolescents with dysglycaemia demonstrated notably elevated BED rates (Al Hourani et al., 2020), suggesting a reciprocal link between metabolic disruption and binge-eating behavior. Sociocultural pressures also contributed to risk: thin-ideal internalization and appearance-focused social comparison predicted later bulimic and binge-eating symptoms (Yamamiya & Stice, 2024). Trauma exposure was also identified as a major risk factor, as adolescents who experienced sexual or emotional abuse were more likely to develop later bulimic or binge-eating behaviors (Lie et al., 2021). This association aligns with affect-regulation models, in which disordered eating functions as a maladaptive coping strategy for stress. Trauma-linked explanations are discussed in Section 3.2.5.3.

3.2.3 Shared and Distinct Psychopathology Across Subtypes

Although EDs share several core features, including body-image disturbance, psychological distress, and functional impairment, each subtype expresses these symptoms differently. Comparative findings summarized in Table 3 show that BN and binge-purge AN exhibit the most severe body-image distortion and preoccupation (Caspi et al., 2017). These groups also tend to cluster on affective instability and interpersonal difficulties, whereas restrictive AN cluster on cognitive rigidity and overcontrolled self-regulation (Curzio et al., 2018). BED differs by being closely linked to emotional dysregulation and impulsive eating, with less emphasis on weight-management behaviors. Behavioral patterns also differed. Individuals with AN/BN consumed more energy drinks (34% higher) and fewer ultra-processed foods (22% lower) than healthy controls (Castillo & Weiselberg, 2017). These compensatory consumption patterns may reflect attempts to regulate energy balance or perceived control over intake. Overall, these findings suggest a spectrum of self-regulatory dysfunction: AN-R is overcontrolled, BED is under controlled, and BN oscillates between the two.

**Table 3. Comparative Clinical and Psychological Features by Disorder Subtype**

Domain	AN / Atypical AN	BN	BED / SBED	References
Mean age of onset	10-20 years (Earliest among EDs)	13-20 years	12-24 years	Castillo & Weiselberg (2017) and Keski-Rahkonen (2021)
Core behavioral pattern	Severe restriction (AN-R) or restriction with binge-purge behavior (AN-BP)	Recurrent binge + compensatory purging	Recurrent binge without compensation	Qian et al., (2022) and Salari et al. (2025)
BMI trajectory	Low BMI by age (2-4 years)	Higher BMI by age (6 years)	High BMI and metabolic risk	Ghazzawi et al. (2023)
Psychiatric comorbidities	Anxiety > Controls; obsessive-compulsive traits high (Y-BOCS = 20-28)	Depression and anxiety elevated	Highest depression scores (mean = 28)	Qian et al. (2022) and Salari et al. (2025)
Trauma associations	Moderate; emotional abuse link in binge-purge AN	Strong link with sexual/emotional abuse (OR $\approx$ 2.5)	Strong link with trauma and affect-regulation issues	Qian et al. (2022)
Personality traits	Cognitive rigidity, perfectionism	Impulsivity, emotional instability	Negative emotionality	Castillo & Weiselberg (2017)
Quality of life	Impaired physical health and social quality of life	Greater psychological distress	Most severe quality of life impairment	Keski-Rahkonen (2021)
Care access / stigma	High hospitalization but timely diagnosis	Under-recognized in males and minority groups	Least likely to seek help due to stigma	Ghazzawi et al. (2023) and Silén & Keski-Rahkonen (2022)

3.2.4 Developmental and Longitudinal Patterns



Developmental evidence highlights adolescence as a critical period for the emergence and progression of EDs. Restrictive disorders, especially AN, appeared earliest. Across populations, children who later developed AN showed lower BMI trajectory from early childhood. Girls had lower BMI than controls by age 4 years (mean BMI = 16.5 kg/m²), whereas boys showed lower BMI by age 2 years (mean BMI = 17.0 kg/m²) (Yilmaz et al., 2019). For pediatric samples, BMI z-scores were used to adjust for normal growth, making groups comparable by age. AN also showed greater chronicity, with symptoms lasting more than two years in roughly 60% of cases, reinforcing its early-onset and persistent course. In contrast, BN, BED, and purging disorder symptoms typically appeared around age 9.5 years and were associated with higher childhood BMI profiles (mean BMI = 22.5 kg/m²) (Yilmaz et al., 2019). Longitudinal evidence further supports adolescence as a high-risk period. A prospective cohort of girls aged 11-15 years found early risk factors for later AN, BN, and BED, although these disorders followed distinct developmental patterns (Yamamiya & Stice, 2024). Adolescents aged ≥14 years showed more bulimic behavior than younger adolescents (Al Hourani et al., 2020), suggesting a developmental shift toward compensatory pathology, impulsivity, and body dissatisfaction. These vulnerabilities may be aggravated by chronic disease. Reinehr et al. found that ED symptoms appeared soon after Type 1 diabetes mellitus (T1DM) diagnosis and posed ongoing challenges for disease management (Reinehr et al., 2019). This overlap supports closer integration of medical and psychological care, as physiological monitoring may intensify appearance-related concerns. EDs may also persist into young adulthood. Diaz Muñoz et al. reported an ED-risk prevalence of 27.6% among undergraduates aged 18-30 years (Díaz Muñoz, 2021), while Sandri et al. reported AN and BN prevalences of 1.04% and 0.73%, respectively, in a comparable young-adult cohort (Castillo and Weiselberg 2017). Overall, developmental data suggest that restrictive pathology may originate early through biologically driven patterns, whereas binge-spectrum disorders appear more strongly shaped by emotional, psychosocial, and environmental risk factors.

3.2.5 Psychiatric Comorbidities in Eating Disorders: Patterns and Implications

3.2.5.1 Depression and Suicidality

Higher levels of depressive symptoms have been reported in binge-type disorders. In community samples, BED (1.1%) and subthreshold BED (2.7%) were associated with depression, suicidal ideation, and reduced quality of life. The highest depression scores were observed in BED (mean = 28.1), followed by other EDs (mean = 24.5) and controls (mean = 14.3) (Andersen et al., 2023). BN and BED onset were also associated with negative emotionality (beta = 0.35), which is closely related to depression and anxiety (Yamamiya & Stice, 2024). These results indicate that mood dysregulation does not simply arise from disordered eating; it may also help maintain it. Depression and disordered eating often co-occur, which may help explain why individuals with binge-purge behaviors face a higher risk of suicide.

3.2.5.2 Anxiety and Obsessive-Compulsive Features

Anxiety differs across subtypes and reflects underlying patterns of control. Patients with binge-purge AN/BN recorded higher anxiety scores at treatment admission and more intrusive thoughts,



consistent with emotional instability (Lewis et al., 2019). Anxiety was also elevated in restrictive groups. Both AN-R and atypical AN had higher anxiety than ARFID (Zanna et al., 2021), whereas BED was associated with a high level of general anxiety risk (risk ratio = 3.7) (Andersen et al., 2023). Overall, individuals with EDs showed higher total anxiety on the State-Trait Anxiety Inventory (STAI mean = 45.3 vs. controls = 35.6) (Vázquez-Velázquez et al., 2017). Obsessive-compulsive features followed a parallel pattern. Yale-Brown Obsessive Compulsive Scale scores indicated that binge-purge AN (Y-BOCS = 28.5) involved more severe obsessive-compulsive symptoms than AN-R (Y-BOCS = 19.8) (Lewis et al., 2019). Restrictive presentations, including AN-R and atypical AN, also carried obsessive-compulsive tendencies, consistent with evidence of rigid, overcontrolled cognitive styles (Zanna et al., 2021). Comorbid anxiety disorders were also common in metabolic subgroups. In Jordanian adolescents with dysglycaemia, anxiety significantly increased the risk of BN and BED, whereas sedentary behavior unexpectedly reduced risk, possibly reflecting anxiety-driven avoidance (Al Hourani et al., 2020). Separation anxiety symptoms were particularly prominent in ARFID, distinguishing it from weight-focused restrictive disorders (Zanna et al., 2021). These comorbidity patterns mirror broader regulatory profiles: overcontrol in restrictive disorders and anxiety-driven dysregulation in binge-purge forms.

3.2.5.3 Trauma and Stressful Life Events

Traumatic exposure was associated with binge-purge presentations. Lie et al. reported that 93% of female ED patients had experienced at least one stressful life event. Those exposed to sexual assault had more than twice the odds of developing binge-purge AN, BN, or BED (odds ratio = 2.24) (Lie et al., 2021). Specific events such as rape (OR = 3.58), other sexual assault (OR = 2.96), and emotional abuse (OR = 2.15) carried even higher risk. Risk continued to rise as the number of traumatic events increased. Patterns from other samples also support this association. In an Italian multisite study, binge-purge presentations (binge-purge AN, purging BN, and non-purging BN) clustered on dimensions related to affective distress and interpersonal difficulties, whereas restrictive AN and ARFID did not show these trauma-related patterns (Curzio et al., 2018). Intergenerational effects were also noted. Mothers of daughters with BN and BED reported more past traumatic experiences than mothers of daughters with AN (Vázquez-Velázquez et al., 2017). This evidence suggests that sexual, emotional, and cumulative trauma are strongly and selectively related to binge-eating and purging-type EDs. In contrast, restrictive AN and ARFID appear less strongly related to trauma exposure in the available data.

3.2.5.4 Personality Traits and Familial Dynamics

Personality traits and family dynamics also followed subtype-specific patterns. Restrictive presentations tended to share a similar profile. In an Italian study, individuals with AN-R, atypical AN, and ARFID showed similar elevations in interpersonal insecurity, emotional dysregulation, and difficulty interpreting internal cues (Zanna et al., 2021). In contrast, binge-purge presentations were consistently linked with higher clinical perfectionism, mood instability, and interpersonal difficulties (Curzio et al., 2018; Lewis et al., 2019). Family patterns also differed by subtype. Family modelling was most noticeable in BED, especially between mothers and daughters. BN showed a moderate level of symptom similarity within families, whereas AN showed the weakest



family resemblance, suggesting a stronger biological contribution (Vázquez-Velázquez et al., 2017).

3.3 Multifaceted Impact of Eating Disorders on Quality of Life

Quality-of-life impairment is common across ED subtypes and arises from the combined psychological, social, and physical burdens of disordered eating. Adolescents with full-threshold and subthreshold BED reported the greatest psychosocial distress (Andersen et al., 2023). Among First Nations Australian youth, poor psychosocial quality of life was most pronounced in other specified EDs (Burt et al., 2020). Similar patterns were observed in non-Indigenous adolescents, confirming that ED-related distress was not culturally specific (Burt et al., 2020). Physical health consequences also contributed significantly. In young adults, Sandri et al. found that AN and BN were associated with poorer sleep quality, shorter sleep duration, and increased energy-drink consumption (Sandri et al., 2024). In adolescents with T1DM, ED symptoms were associated with poorer metabolic control, including increased HbA1c and higher rates of diabetic ketoacidosis and hypoglycemia, leading to physical-health deterioration (Reinehr et al., 2019).

The emotional and social burden of EDs aggravates these quality-of-life impairments. Greater symptom severity, particularly obsessive-compulsive symptoms in binge-purge AN and depression in BN/BED, was linked to poorer mental well-being and self-esteem (Lewis et al., 2019). The emotional impact of these disorders did not depend solely on symptom intensity. Psychosocial factors, particularly low parental support and negative emotionality, amplified these impairments (Yamamiya & Stice, 2024). Social context further shaped quality-of-life outcomes. Stigma played an additional role: AN and BN were viewed as more blameworthy and less legitimate than obesity or BED, which may deter early help seeking and worsen distress (Murakami et al., 2016). Family dynamics, especially in BED, contributed to symptom maintenance and daily functional challenges (Vázquez-Velázquez et al., 2017). These results emphasize the need for treatment approaches that target not only symptom reduction but also emotional regulation, metabolic stability, and social reintegration.

3.4 Access to Care and Treatment Outcomes

3.4.1 Healthcare Disparities and Access Inequities

Access to ED care differed widely across groups and was shaped by clinical severity as well as social and structural barriers. Across settings, restrictive and purging presentations produced more hospitalizations and mental-health visits than ARFID or BED (Couturier et al., 2023). These trends suggest greater clinical severity, but they also reveal problems in continuity of outpatient care. A similar breakdown in continuity appeared in chronic medical populations, where adolescents with T1DM did not receive frequent ED screening despite clear metabolic risks and poorer health outcomes (Reinehr et al., 2019). Similar gaps were evident among dysglycaemic youth, who showed increased BED rates but lacked formalized referral pathways (Al Hourani et al., 2020). Beyond chronic medical populations, weight-related and cultural disparities further delayed detection. These delays were common among higher-weight adolescents, who were often advised to lose weight rather than evaluated for ED symptoms (Murakami et al., 2016), and among First



Nations adolescents, who reported poorer psychosocial well-being yet had fewer opportunities for specialist treatment (Burt et al., 2020). Gender differences were also present. ED symptoms in boys were frequently overlooked because most diagnostic systems and screening practices implicitly favored female presentations (Díaz Muñoz, 2021; Sandri et al., 2024). Sexual- and gender-diverse adolescents were underrepresented in most studies, which represents a significant evidence gap. Overall, these differences show that early detection is often limited not by symptoms themselves but by social and structural factors. Improving primary-care screening, reducing stigma, and addressing weight- and culture-related biases are crucial for equitable access

3.4.2 Treatment Outcomes and Novel Approaches

Responses to inpatient treatment differed by subtype. Adolescents with binge-purge AN/BN showed greater improvements in obsessive-compulsive symptoms, depression, and anxiety between admission and discharge than those with restricting AN, although changes in eating-related measures were similar (Lewis et al., 2019). This trend indicates that binge-purge presentations may respond more strongly to standard multimodal inpatient care. In contrast, restrictive presentations often involve more rigid thinking and behavioral inflexibility, indicating a need for interventions that specifically target these traits. Alongside these treatment insights, methodological advances are improving assessment and monitoring. For instance, computerized body-image instruments distinguished ED subtypes from controls more accurately than conventional silhouette measures (Caspi et al., 2017). Such body-image assessment may be valuable for early detection and for monitoring perceptual distortions without requiring extensive additional resources. Despite these advances, ED screening remains inconsistent. Trauma history, which is strongly associated with binge-purge presentations, is rarely included in standard evaluations (Lie et al., 2021). Restrictive and partial-syndrome presentations often receive insufficient attention, and ARFID shares emotional and developmental vulnerabilities with AN but remains underserved in routine care (Zanna et al., 2021; Couturier et al., 2023). Overall, treatment outcomes indicate that standard approaches benefit some subtypes more than others. Greater integration between medical and mental-health services, trauma-informed evaluation, and subtype-specific therapeutic models is necessary to improve treatment effectiveness across the spectrum.

4. Discussion

Across the literature examined, three cross-cutting themes emerged. First, eating disorders in adolescence follow different developmental pathways. Restrictive symptoms tend to emerge earlier, often preceded by lower BMI trajectories and over-controlled behavioral styles, and typically persist longer. In contrast, later-onset binge-purge symptoms were more strongly tied to emotional dysregulation and trauma exposure. Second, shared psychopathology, including anxiety, depression, and body-image disturbance, was present across all subtypes. However, the expression of these symptoms differed, with restrictive disorders marked by cognitive rigidity and compulsive control, and binge-purge disorders shaped by impulsivity, affect-regulation difficulties, and interpersonal strain. Third, systemic and structural inequities shape access to care, particularly for adolescents in higher-weight bodies, boys, gender-diverse youth, youth of First Nations, and those with chronic medical conditions such as T1DM. Weight stigma, diagnostic delays, and poor coordination between medical and mental-health services consistently



contributed to under-recognition, even when metabolic risk or psychosocial impairment was apparent. These patterns highlight that adolescent EDs unfold within "uneven social systems," where recognition and treatment depend as much on structural context as on clinical presentation.

The existing evidence aligns with reports of increasing ED prevalence among adolescents worldwide (Galmiche et al., 2019). It supports prior evidence linking restrictive control with anxiety-related behaviors (Fitzgerald et al., 2021) and the central role of sociocultural and familial influences in BN and BED (Sim et al., 2024). The developmental sequencing observed in this review, early BMI divergence in AN and later emergence of binge-purge behaviors, aligns with prospective work showing that biological and psychosocial vulnerabilities likely unfold at different stages of growth (Rohde et al., 2015). The included studies also highlight the importance of recognizing restrictive pathology in normative-weight adolescents. Although atypical AN was not a primary focus of the comparative studies included in this review, the broader evidence base emphasizes its clinical relevance. The findings of Zanna et al. (2021), along with recent conceptual work by Hebebrand et al. (2024), support the idea that AN and atypical AN share core restrictive psychopathology and likely fall along a single diagnostic spectrum. The limited representation of atypical AN in current comparative studies reflects gaps in the available research rather than a lack of clinical importance.

The primary strength of this paper is its systematic synthesis of AN, BN, and BED across prevalence, developmental patterns, psychiatric comorbidities, and care disparities. The inclusion of diverse study designs and international samples strengthens generalizability. Longitudinal and cohort data also provide useful insight into early risk factors and symptom development. Nevertheless, several limitations should be considered. The search may have excluded valuable non-English literature because only English-language publications were included. Some studies used self-report or secondary data, increasing the risk of measurement bias. Randomized controlled trials were not included, limiting causal inference. Not all samples reported sex/gender details, restricting gender-based analysis. Finally, comparative work involving atypical AN, ARFID, and gender-diverse youth remains underrepresented, highlighting important gaps in the evidence base. Despite these limitations, convergent trends across independent datasets strengthen the validity of the findings.

The findings demonstrate the need for earlier diagnosis and intervention that considers the developmental and psychological needs of young people. Routine screening of at-risk adolescents in schools, universities, and primary-care settings may help prevent symptom progression. Treatment should not focus only on eating symptoms; it should also address comorbid anxiety, depression, trauma history, and sociocultural pressures. Interventions that improve emotion regulation and reduce perfectionism may help differentiate and treat restrictive and binge-purge presentations. For sustained recovery, care must include consistent, coordinated follow-up that integrates family support with trauma-informed approaches.

Future studies should prioritize longitudinal, developmentally sensitive designs to examine the interplay among biological, emotional, and environmental factors across childhood, adolescence, and emerging adulthood. Atypical and weight-diverse restrictive presentations should also be studied to avoid reinforcing weight-based diagnostic bias. Including more male, gender-diverse, and minority youth is crucial for fair and reliable evidence. In clinical practice, early diagnosis,



integrated medical-mental health pathways, and subtype-specific interventions may improve outcomes. Ultimately, culturally competent systems that recognize both psychological vulnerabilities and structural barriers are required to reduce the burden of EDs in young populations.

5. Conclusion

This paper summarizes recent evidence on how clinical, developmental, and systemic factors influence the phenotypic presentation and clinical course of eating disorders (EDs). Binge-purge profiles were more strongly correlated with trauma exposure, emotional dysregulation, and psychiatric comorbidities than restrictive phenotypes, whereas restrictive disorders showed greater medical severity and earlier onset. Early BMI differences and behavioral patterns suggest that risk may begin long before symptoms become obvious. Across clinical settings, significant disparities in detection and treatment were evident among higher-weight youth, boys, gender-diverse adolescents, and young people from racial or lower-income backgrounds. Weight stigma, limited screening, and poor coordination between medical and psychological services contributed to delayed care. These findings underscore the need for developmentally sensitive assessment, early and equitable identification, and integrated, culturally responsive care pathways. Improving continuity across outpatient, inpatient, and school-based health systems and expanding access to specialized services remain essential for reducing the burden of EDs in young populations.



Author contributions

Conceptualization: Hafsa Naseer and Muhammad Tauseef Sultan; **writing - original draft:** Ahmad Mujtaba Noman and Zainab Ahmed; **writing - review and editing:** Hassan Raza and Muhammad Abdul Rahim; **draft preparation:** Shehnshah Zafar and Sabeen Zahra; **validation and visualization:** Hafsa Naseer, Ahmad Mujtaba Noman, and Hassan Raza. All authors have read and agreed to the published version of the manuscript.

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Conflicts of interest

The authors declare no conflict of interest.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability

The data that support the findings of this study are available on request from the corresponding author.

Ethical statement / Clinical trial registration number / Informed consent

Not applicable.



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Note. Detailed study-level characteristics are provided in Supplementary Appendix A, including Table S1 (Characteristics of Included Studies) and Table S2 (Risk of Bias Assessment Using the Newcastle-Ottawa Scale).

Table 1. Characteristics of included studies

Study	Country	Sample Size	Age Range	Disorders Compared	Key Findings	Diagnostic Criteria
Al Hourani et al. (2020)	Jordan	1,001 adolescents: 497 with dysglycaemia (325 females, 65.4%; 172 males, 34.6%) and 504 controls (329 females, 65.3%; 175 males, 34.7%)	Mean age (16.8 ± 4.3)	AN, BN, BED, Other Eating Disorders (e.g., atypical anorexia, purging disorder)	Higher prevalence of BED in dysglycaemic adolescents (11.9% vs. 5.8%). Older adolescents (≥14) had higher bulimia rates. Sedentary lifestyle inversely related to bulimia and binge eating.	Eating Disorder Diagnostic Scale (EDDS)
Andersen et al. (2023)	Denmark	2,509 participants; more girls were invited for follow-up, but the exact number was not reported	16-17 years; mean age 16.5 years (SD = 4.2 months)	BED vs. SBED	SBED prevalence: 2.7%. Both SBED and BED are associated with depressive symptoms, suicidal ideation, and impaired quality of life. No link found with non-suicidal self-injury. Symptom impact is similar regardless of frequency/duration.	DSM-5 criteria (approximated via survey items)
Caspi et al. (2017)	Israel	105 (22 AN-R, 22 AN-B/P, 20 BN, 41 controls)	Females aged 15-25 years	AN-R, AN-B/P, BN, Healthy Controls	Significant differences in body image disturbances among ED types using three	CDRS, CABI, EDI-2-Body Dissatisfaction Scale



					assessment tools (CDRS, CABI, EDI-2-BD). CABI effectively distinguished ED patients from controls. Multimodal assessments enhance understanding of body image distortions.	
Couturier et al. (2023)	Canada	AN (n = 674; 605 females, 89.8%; 69 males, 10.2%); BN (n = 230; 222 females, 96.5%; 8 males, 3.5%); BED (n = 59; 47 females, 79.7%; 12 males, 20.3%); ARFID (n = 171; 113 females, 66.1%; 58 males, 33.9%); other EDs (n = 315; 283 females, 89.8%; 32 males, 10.2%); plus a matched general-population cohort (5:1)	5-17 years; mean ages: AN 14.47 ± 1.83, BN 15.12 ± 1.34, BED 14.19 ± 1.97, ARFID 12.12 ± 3.01, OSIEDs 14.39 ± 1.99 years	AN, BN, BED, ARFID, Other Specified EDs	Mental health care utilization was higher for all subgroups compared to the general population; the AN subgroup had significantly higher hospitalization and mental health visit rates compared to ARFID	Diagnostic classification based on clinical diagnoses from health administrative data
Curzio et al. (2018)	Italy	419 patients (13.8% males; 86.2% females)	7-18 years (mean age 14.7 ± 2.14)	AN, BN, EDNOS (including AN-R, bulimic	Both disorder-specific and transdiagnostic mechanisms exist. AN group	Clinical diagnoses based on ED subtype classification



				purging/non-purging, BED)	associated with restraint, BN group with bulimic behavior; purging subtypes showed homogeneity tied to affective and interpersonal issues. EDNOS opposed to AN-R; BED appeared independent.	in clinical centers
Lewis et al. (2019)	Israel	209 female adolescent inpatients (94 AN-R, 67 AN-B/P, 48 BN)	Adolescents under 18 years (15-16 years)	AN-R, AN-B/P, BN	AN-B/P patients showed higher obsessive-compulsive symptoms (Y-BOCS), eating-disorder severity (YBC-EDS), and depression (BDI) at admission compared with AN-R and BN. All groups improved by discharge, with AN-B/P and BN showing greater improvement in obsessionality and anxiety than AN-R.	Diagnoses per DSM criteria for AN-R, AN-B/P, and BN; symptom severity assessed via Y-BOCS, YBC-EDS, EAT-26, BDI, and STAI
Lie et al. (2021)	Norway	890 total (495 with EDs, 395 controls) 95% females	Mean ~29 years (± 9.8 EDs, ± 11.7 controls)	ED subtypes along the restricting to binge-eating/purging spectrum.	Individuals with EDs reported significantly more stressful life events (SLEs) than controls (OR=2.47). Sexual abuse (rape, assault) and emotional abuse were especially associated with binge-	Self-reported lifetime history of EDs and SLEs; ED subtypes divided by restricting vs. binge/purging behaviors



					eating/purging subtypes. Multiple SLE exposures increased the association strength.	
Murakami et al. (2016)	USA	318 undergraduates (73.6% female)	Mean age: 21.58 (SD = 3.97)	AN, BN, BED, obesity	Stigma levels differed by diagnosis but not by gender; AN and BN were most stigmatized, followed by BED, with obesity least stigmatized; EDs were perceived to involve more psychological impairment than obesity	Vignette-based experimental design (diagnoses described in vignettes)
Reinehr et al. (2019)	Germany (DPV cohort)	31,556 girls with T1DM, including 155 (0.49%) with AN, 85 (0.27%) with BN, 45 (0.14%) with BED, and 229 (0.73%) with EDNOS	>6 months to <23 years; females aged 12-18 years were considered vulnerable to EDs	AN (n = 155), BN (n = 85), BED (n = 45), EDNOS (n = 229)	EDs associated with late puberty, pump nonuse, higher HbA1c, increased DKA, and severe hypoglycemia; weight loss predicted AN. Celiac disease not associated. ED indicators appeared early after T1DM onset.	Clinical diagnosis via DPV registry; likely DSM-based (not explicitly stated)
Vázquez-Velázquez et al. (2017)	Mexico	133 dyads (30 AN, 30 BN, 19 BED, 54 control)	Young females aged 15-19 years; AN 18.2 ± 2.9 years, BN 19.1 ± 3.1 years, BED 22.3 ± 3.1	AN, BN, BED, Non-ED	Inverse correlations in AN dyad; moderate correlations in BN dyads; strongest positive correlations in BED dyads (especially in	Clinical diagnoses and psychological assessment tools.



			years, and controls 19.1 ± 2.7 years		eating behavior); control dyads showed low but significant correlations. Disorder-specific analysis recommended for treatment implications.	
Diaz Muñoz (2021)	Colombia	1,545 65.7% female	Mean age: 19.2 years (±2.5)	Risk of AN and BN	27.6% of students were at risk. Risk was higher in females and associated with dietary habits (fat and light products intake), protein supplement use (protective), and motivations for physical activity (appearance-related increased risk).	SCOFF questionnaire, IPAQ (short form), multivariate logistic regression
Sandri et al. (2024)	Spain	9,692 young adults (1,835 males, 18.93%; 7,857 females, 81.07%)	18-30 years; male mean age 24.28 ± 3.40 years; female mean age 24.37 ± 3.35 years; BN subgroup mean age 23.79 ± 3.19 years	AN, BN	Prevalence: AN = 1.04%, BN = 0.73%. Higher rates in women, regardless of sociodemographic factors. Those with EDs consumed less fast/ultra-processed food but more coffee and energy drinks. Poorer sleep quality and duration were noted. No difference in sedentary behavior; physical activity	Diagnosis based on responses to the NutSo-HH Scale (valid and reliable tool); not a clinical diagnosis



					increased in bulimia cases.	
Yilmaz et al. (2019)	United Kingdom	1,502 (AN: 243, BN: 69, BED: 114, PD: 133, Controls: 966) 58% female	Birth to 18 years	AN, BN, BED, PD	AN: BMI trajectories diverged below controls by age 4 years in girls and by age 2 years in boys. BN, BED, and PD trajectories diverged above controls before age 6 years. Early BMI patterns may indicate biological risk or early signs of EDs.	ED diagnoses assessed at ages 14, 16, and 18; BMI tracked from birth to 12.5 years; based on Avon Longitudinal Study of Parents and Children (ALSPAC)
Yamamiya & Stice (2024)	USA (Texas)	492 adolescent girls	11-15 years at baseline; followed for 8 years; mean age 13.02 years (SD = 0.73)	AN, BN, BED & PD	AN: Only low BMI predicted onset. BN: Predicted by pressure to be thin, thin-ideal internalization, body dissatisfaction, negative emotionality, low parent support, and modeling of eating pathology. BED: Same predictors as BN except body dissatisfaction. PD: Predicted by pressure to be thin, body dissatisfaction, dietary restraint, low parent support, modeling of eating pathology, and high BMI.	Diagnostic interviews conducted annually over 8 years; risk factors assessed via self-report questionnaires at baseline



					Predictive effects were medium-to-large	
O'Connor et al. (2016)	Ireland	290 Male 51.1% (n = 145) Female 48.9% (n = 139)	15-19 years; mean age 16.76 years (SD = 0.89)	AN, BN, BED	EDs were more stigmatized than depression and diabetes; BED was seen as a failure of self-control	Vignette-based scenarios referencing DSM conditions
Zanna et al. (2021)	Italy	346	10-15 years 15.0 (1.9) 14.8 (1.8) 10.6 (2.9)	AN-R, AN-A, ARFID	ARFID differed significantly in onset age, symptom profile, and comorbidity; shared vulnerability across groups	DSM-5 + standardized psychometrics (CDI, MASC, EDI-3, CBCL)
Ernst et al. (2017)	Germany	1,654	12-15 years (7th and 8th grade students)	AN, BN, EDNOS, OSFED	DSM-5 criteria resulted in higher prevalence; better differentiation between disordered and non-disordered groups	DSM-IV and DSM-5
Burt et al. (2020)	Australia	5,068 (FA: 402; OA: 4,586)	Adolescents (14-15 years)	OSFED-NES, AN, BN, others	EDs prevalent in both groups; OSFED-NES higher in First-Australians; associated with poor psychosocial quality of life	DSM-5

**Table 2. Risk of bias assessment using the Newcastle-Ottawa Scale**

Studies	Selection (0-4)	Comparability (0-2)	Outcome/Exposure (0-3)	Total Score	Risk of Bias
Al Hourani et al. (2020)	3	1	2	6	Moderate
Andersen et al. (2023)	3	1	2	6	Moderate
Burt et al. (2020)	3	1	2	6	Moderate
Caspi et al. (2017)	2	2	3	7	Low
Couturier et al. (2023)	3	2	3	8	Low
Curzio et al. (2018)	2	1	2	5	Moderate
Diaz Muñoz (2021)	3	1	2	6	Moderate
Ernst et al. (2017)	3	1	2	6	Moderate
Lewis et al. (2019)	2	2	3	7	Low
Lie et al. (2021)	2	1	1	4	High
Murakami et al. (2016)	2	1	2	5	Moderate
O'Connor et al. (2016)	2	1	2	5	Moderate
Reinehr et al. (2019)	3	2	3	8	Low
Sandri et al. (2024)	3	1	2	6	Moderate
Vázquez-Velázquez et al. (2017)	2	2	3	7	Low
Yamamiya & Stice (2024)	3	2	3	8	Low
Yilmaz et al. (2019)	3	2	3	8	Low
Zanna et al. (2021)	2	1	2	5	Moderate



Note. Studies using community or population-based samples (Lewis et al., 2019; Lie et al., 2021) were awarded 1 star for representativeness, whereas clinical samples (Caspi et al., 2017; Curzio et al., 2018) were not, due to potential selection bias. One star was awarded for control selection when controls were well defined and came from the same population (Diaz Muñoz, 2021). Use of standardized diagnostic criteria (DSM-5, EDDS) earned 1 star for exposure ascertainment, whereas self-reported or vignette-based diagnoses (Andersen et al., 2023; Murakami et al., 2016) did not. For cohort studies, an additional star was awarded when outcomes were not present at baseline (Brooke et al., 2021). Cross-sectional designs were exempt from this criterion. For comparability, studies adjusting for at least two confounders (age and gender) received 2 stars (Brooke et al., 2021; Diaz Muñoz, 2021), whereas those with limited adjustment (Reinehr et al., 2019) received fewer or no stars. For outcome/exposure, studies using clinical or independently assessed outcomes (e.g., health records and standardized scales) were rated higher (2-3 stars) (Diaz Muñoz, 2021, Curzio et al., 2018), whereas self-reported outcomes (Andersen et al., 2023) received 1 star. Cohort studies with sufficient follow-up and low attrition (Yamamiya & Stice, 2024) earned additional stars, whereas cross-sectional studies were not evaluated for follow-up.