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|  |  | Keinanen et al. (2012) | Laulik et al. (2013) | Petfield et al. (2015). | Eyden et al. (2016) | Stepp et al. (2016) | Winsper et al. (2016) | Boucher et al. (2017) | Ibrahim et al. (2018) |
| Section A: Are the results of the review valid? | 1. Did the review address a clearly focused question?
 | - The reviewers address the purpose of the review without clearly defining the research questions | - The reviewers address the purpose and aims of the review without clearly defining the research question. | Yes | Yes | - The reviewers address the purpose and goals of the review without clearly defining the research questions. | - The reviewers address the aims of the review without clearly defining the research questions. | Yes | - The reviewers address the purpose of the review without clearly defining the research question. |
| 1. Did the authors look for the right type of papers?
 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 1. Do you think all the important, relevant studies were included?
 | - Searches were conducted in only two databases (PsycINFO and MEDLINE). However, these are major databases with a wide scope. The reviewers did not conduct hand searches.  | Yes | - Searches were conducted in only two databases (PsycINFO and MEDLINE). However, these are major databases with a wide scope.  | Yes | Yes | Yes | - The reviewers used appropriate databases but did not conduct hand searches. Additionally, the authors note that stringent inclusion/exclusion criteria may have resulted in eligible studies not being included. | Yes |
| 1. Did the reviews authors do enough to assess quality of the included studies?
 | - No quality assessment reported | Yes | Yes | Yes | - No quality assessment reported | Yes | - No quality assessment reported | Yes |
| 1. If the results of the review have been combined, was it reasonable to do so?
 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Section B: What are the results? | 1. What are the overall results of the review?
 | 51 papers were retrieved to evaluate the risk factors for the aetiology of BPD that meet the interventional evidence-based medicine (EBM) criteria of best evidence. Five vulnerability factors were identified and classified according to the EBM criteria:1. BPD risk factor 1: Childhood trauma/abuse
2. BPD risk factor 2: Unfavourable parenting
3. BPD risk factor 3: Object relations
4. BPD risk factor 4: Insecure attachment/loss
5. BPD risk factor 5: Symbolisation-reflectiveness capacity
 | Nine out of 11 studies included for review found evidence to support the existence of a positive association between a diagnosis of personality disorder and personality disorder features and impaired parenting behaviours after controlling for confounding factors. In these studies, the presence of personality disorder was related to: * The use of inadvisable and problematic parental practices
* Inconsistent parental discipline
* Low parental affection, assistance, praise and encouragement
* Less satisfaction and reported competence in the parenting role
* Sensitive, instructive poorly attuned and disrupted parent-infant interactions
* Harsh behaviour
* Frightening/disoriented parental behaviour
* Status as an abusive parent.
 | * Mother’s BPD diagnosis was associated with differences in parenting outcomes compared to control group, including: reduced sensitivity and increased intrusivity towards child; difficulty un structured activities and having poorer levels of family organisation; family environments characterised by high levels of hostility and low levels of cohesion; increased overprotection; poor mind-mindedness; less competence and satisfaction in parenting role; and increased parenting stress.
* Mother’s BPD diagnosis was also associated with differences in children’s outcomes compared to control groups, including: less satisfying interactions (e.g., more looking away and dazed looks); more cognitive-behavioural risk factors (e.g., poorer theory of mind); difficulties in mother-child relationship (e.g., disrupted attachment style) and poorer mental health (e.g., depression).
 | * Mothers with BPD/BPD symptoms appear less sensitive, more intrusive, more overprotective, and more hostile, show less engagement, and are more likely to have maladaptive interactions with their offspring compared to controls.
* Offspring exhibited a range of psychological and psychosocial outcomes across several stages of development, including BPD symptoms/features.
* Potential mechanisms underpinning the transmission of vulnerability from mother to offspring include: maladaptive parenting, maternal emotional dysfunction and offspring characteristics.
 | Multiple factors across social, familial, maltreatment, and child domains increase the risk for BPD. The most robust risk indicators in there domains were:* Social: low SES, stressful life events, family adversity
* Family: maternal psychopathology, affective parenting dimension (low warmth, hostility, harsh punishment)
* Maltreatment: physical or sexual abuse, neglect
* Child: low IQ, negative affectivity and impulsivity, internalising and externalising psychopathology
 | * Youth BPD was found to share a number of features with the adulthood disorder.
* The common aetiological features were:
1. Sexual and physical abuse
2. Maladaptive parenting
3. Neglect
4. Parental conflict
* The common psychopathological features were:
1. Comorbidity with other psychiatric disorders (e.g., mood disorders, anxiety disorders, substance abuse, eating disorder, PTSD)
2. Suicide (attempt and ideation) and self-harm
 | * BPD participants and their parents consistently reported a much more dysfunctional PCR compared to normal and clinical controls.
* Parental care and overprotection consistently discriminated BPD from NC participants. However, these two variables are related to severity of psychology, rather than being a risk factor of BPD.
* Relational adversity does not sufficiently explain BPD development. Parental inconsistency may more a more appropriate risk factor for the aetiology of BPD.
 | * Four of 10 studies found that children with BPD/borderline features were more likely to have a history of maltreatment compared to those with other clinical presentations
* Six studies showed that maltreated children compared to non-maltreated child were more likely to present with borderline features.
* There was some evidence that all types of abuse and neglect were independently associated with borderline features.
* For children who had experienced more than one type of abuse, there was evidence of a cumulative effect of maltreatment, resulting in those who has experienced maltreatment across more development periods showing significantly higher levels of borderline features.
* These findings suggest that maltreatment in general is a risk factor for borderline features in children and BPD in adults, with more severe abuse increasing the risk of developing borderline features.
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| 1. How precise are the results?
 | - Data was synthesised using a qualitative approach | - Data was synthesised using a qualitative approach  | - Data was synthesised using a qualitative approach | - Data was synthesised using a qualitative approach | - Data was synthesised using a qualitative approach | Statistically significant pooled associations for adult and youth BPD were observed for sexual abuse, physical abuse, maternal hostility/verbal abuse and neglect. Several adult psychopathological features were also associated with youth BPD, including comorbid mood, anxiety, substance use disorders, self-harm, suicide ideation and suicide attempt. However, not all relevant psychopathological (e.g., neurobiological) and aetiological (e.g., biological predisposition), insecure attachment factors could not be quantitatively synthesised.  | - Data was synthesised using a qualitative approach | - Data was synthesised using a qualitative approach |
| Section C: Will the results help locally? | 1. Can the results be applied to the local population?
 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 1. Were all important outcomes considered?
 | Yes | Yes | Yes | Yes | Yes | Yes | - The authors note that stringent inclusion/exclusion criteria may have resulted in eligible studies not being included. | Yes |
| 1. Are the benefits worth the harm and costs?
 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |