

# Childhood adversities and mental health problems: A systematic review

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## Abstract

The number of mental health problems in children and adolescents has been increasing. One of the causes of mental health problems is trauma in the family, such as childhood adversities. The aim of this study was to review the relationship between childhood adversities and mental health problems. The method in this study was a systematic review using three databases: CINAHL, PubMed, and SCOPUS. The results of the review were reported according to the PRISMA guidelines. The keywords used in this study were mental health or mental illness or mental disorder or psychiatric illness AND adolescents or teenagers or teenagers or youth AND parental divorce or parental separation OR parental death or parental loss or parentally bereaved. The inclusion criteria for the articles were English language and published from 2017 to 2021. This study recorded 477 articles, screened according to the topic, and then the final articles were 35. The results of the systematic review showed evidence that childhood adversities were related to mental health problems according to the ICD-10 diagnosis, ADHD and personality disorders, depression, post-traumatic, smoking behavior, and alcohol abuse, and distress. Interventions for children with childhood adversities were needed to prevent mental health disorders.

## Keywords

Adolescents, child, mental health

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## Introduction

The number of mental health problems has been increasing, especially among children and adolescents.<sup>1–3</sup> Stressors of life, as well as trauma, can cause mental health problems.<sup>4</sup> The first onset of mental health problems usually happens before the age of 18 years<sup>5</sup> and the most common mental health problems are depression and anxiety. This mental health problem also can trigger suicidal attempts.<sup>4</sup>

More than 30,000 children were adopted by individuals who are not their family members. Furthermore, several surveys indicated that they did not live with their families or parents.<sup>6–8</sup> These conditions are life-threatening for children as well as parents.<sup>9</sup> Children feel loss of support, loss of affection, decrease in cognitive stimulation, also social interaction is disrupted.<sup>10</sup> Parents with these conditions also tend to be frustrated and uncontrolled, so the role of parents cannot be maximized.<sup>11</sup> Further, it also leads to childhood adversities (CA).

Data from WHO stated that more than 38% of adults in 21 countries have experienced CA.<sup>12</sup> The definition of CA is still being debated, but several studies define it as abuse and neglect that occurs during childhood and adolescence.<sup>12</sup>

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CA also can be defined as parental divorce, parental death, parental substance abuse, parental hospitalization, parental criminality, residential instability, household living on public assistance, or parental migration.<sup>13</sup>

Several studies regarding the relationship between childhood adversities and mental health have been published and well-documented.<sup>10,14–16</sup> There was one study related to the meta-analysis about the effect of parental divorce on mental health among children.<sup>17</sup> So, the aim of this study was to conduct a systematic review of the relationship between childhood adversities and mental health problems.

## Research methods

This procedure of systematic review was registered in PROSPERO number CRD42021277448 to avoid duplicates and bias.

### Literature search strategy

We performed a systematic review to search original studies from three databases, CINAHL, PubMed, and SCOPUS. This study followed the previous study for guiding the systematic review.<sup>17,18</sup> We reported the systematic reviews according to the PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) guideline.<sup>19</sup> The keywords were used in this study were mental health or mental illness or mental disorder or psychiatric illness) AND (adolescents or teenagers or teen or youth) AND (parental divorce or parental separation) OR (parental death or parental loss or parentally bereaved) for CINAHL. We used the combination TITLE-ABS-KEY (mental AND health) OR TITLE-ABS-KEY (mental AND illness) OR TITLE-ABS-KEY (mental AND disorder) OR TITLE-ABS-KEY (psychiatric AND illness) AND TITLE-ABS-KEY (adolescents) OR TITLE-ABS-KEY (teenagers) AND TITLE-ABS-KEY (parental AND divorce) OR TITLE-ABS-KEY (parental AND separation) OR TITLE-ABS-KEY (parental AND death) OR TITLE-ABS-KEY (parental AND loss)) for SCOPUS. Furthermore, we used the combination ((((((((((mental health[MeSH Terms]))) OR (mental illness[MeSH Terms]))) OR (mental disorder[MeSH Terms]))) OR (psychiatric illness[MeSH Terms] )) AND (adolescents[MeSH Terms])) OR (teenagers[MeSH Terms])) AND (Parental divorce[MeSH Terms])) OR (Parental separation[MeSH Terms])) OR (Parental: Abstract, Full text, English, Adolescent: 13–18 years, from 2017 to 2021) for PubMed. The articles were restricted from 2017 to 2021 and only English language. We recorded 477 articles (Figure 1).

### Inclusion criteria

We performed a systematic review that focused on the relationship between childhood adversities, such as

parental divorce, parental death, parental substance abuse, parental hospitalization, parental criminality, residential instability, household living on public assistance, and parental migration (left behind children).<sup>10</sup> The outcome was mental health based on the WHO ICD 10 classification of Mental and Behavioral Disorders, depression, anxiety disorder, stress, suicide, and behavioral disorder due to alcohol, drugs, and smoking. However, it does not limit it to other mental health disorders.<sup>17</sup>

## Results

Figure 1 describes the article selection procedure. In this study, we recorded 477 articles. Then we removed duplicate articles. Two independent authors screened on titles and abstracts, and 46 eligible articles were obtained. Also, we excluded articles that did not correspond to our interests. So, in total, we had 35 articles in this study.

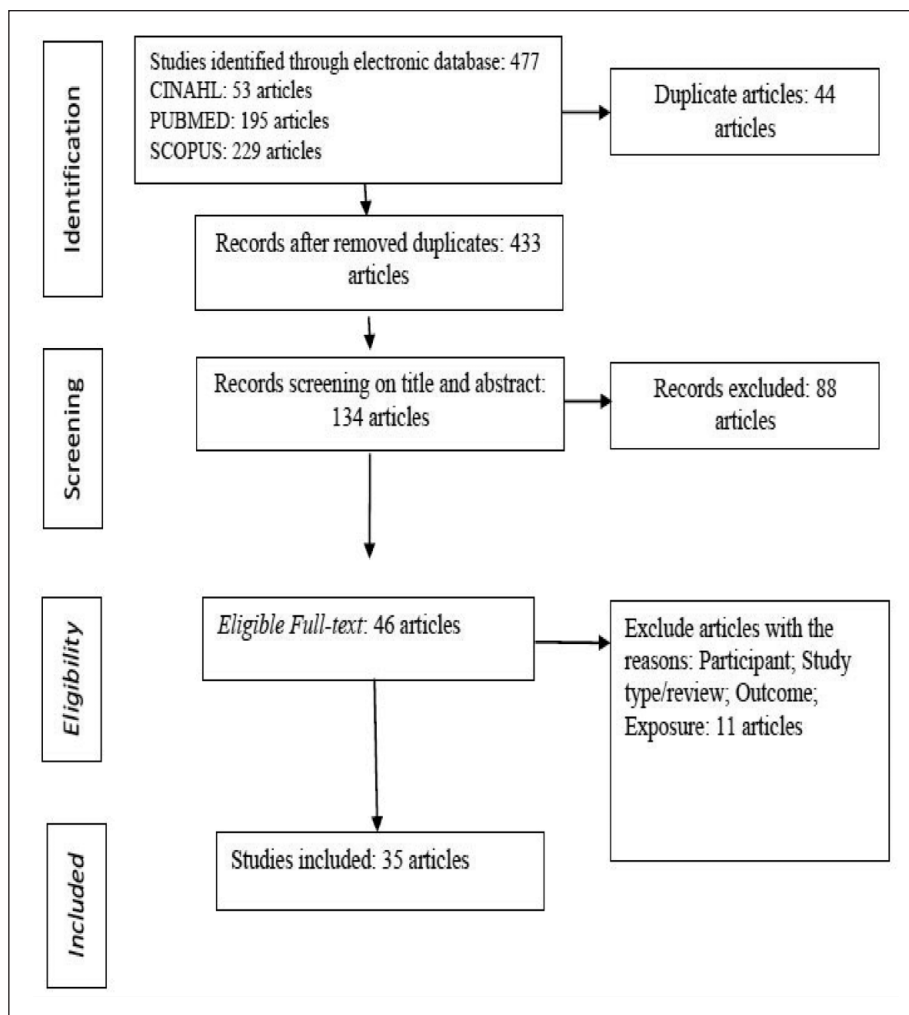
This review showed that 35 articles focused on mental health problems based on the WHO ICD 10 classification of Mental and Behavioral Disorders: mental health disorders (9 articles), ADHD and personality disorders (2 articles), depression (7 articles), post-traumatic (1 article), substance abuse (4 articles), and stress (1 article), and most of the articles were predominantly concerned with suicide (11 articles). In terms of exposure, all of the articles focused on childhood adversities; one or more types of childhood adversities (30 articles), household dysfunction (1 article), parent hospitalized (1 article), adoptive parents (1 article), and left behind children (LBC) (1 article) (Table 1).

The articles were predominantly from the European continent, Denmark, Finland, Norway, England, and Bosnia (17 articles). Studies from Asia (Turkey, Taiwan, India, Korea, China, Saudi Arabia, Japan, and Lebanon) were 13 articles, from the USA three articles and Australia two articles (Table 1).

In terms of study design, most of the articles were predominantly prospective studies (21 articles). The age of the respondents varied from children to adults; however, the studies were limited by the time of childhood adversities as children or adolescents (Table 1).

### Mental health problems, post-traumatic growth (PTG), and stress

Table 2 shows that mental health problems were the outcome of exposures such as household dysfunction, parental divorce, parent jobless for more than 9 months, parents who were in prison, parents who were hospitalized at the psychiatric hospitals, children who live in orphanages, parent died, parents who were undergoing treatment, adoptive parents, and parental abuse. Mental health problems were determined using a self-report questionnaire or mental health based on the WHO ICD



**Figure 1.** Flowchart of study selection.

10 classification (ICD-10 code: F00-F99). In addition, the review showed that PTG was the outcome of children who lost their parents due to cancer. PTG was measured using a self-report questionnaire (Japanese version of PTGI). Distress is also the outcome of parental divorce among children.

### Suicide and self-harm

Table 3 shows that suicide, including suicidal ideations and suicidal attempts, were outcomes of childhood adversities (parental divorce, parental abuse, childhood experience of parental death (CEPD), and parental suicide). Suicide was diagnosed according to ICD 10 as well as a self-report questionnaire to report suicidal ideation such as the KOWEPS questionnaire.

### ADHD and personality disorders

Table 4 showed that childhood adversities were strongly related to ADHD and personality disorders.

### Depression

Table 5 showed that depression was an outcome of exposure to childhood adversities, parental divorce, parents who were hospitalized, parents who were in prison, parental death, parental disabilities, and mental disorders, broken families, leaving orphanages, and childhood abuse. Also, children with LBC (left behind children), because their parents have to go to work for more than 6 months. Depression was determined using self-report questionnaires such as the Beck Depression Inventory 2, Childhood Depression Inventory as well as medical diagnoses (DSM IV, ICD 10).

### Substance abuse

Substance abuse in this review was alcohol abuse, smoking and drugs abuse (table 6). Children with a history of parental divorce, parental divorce plus alcoholics, and children with parental divorce living with adoptive parents were predictors of substance abuse.

**Table 1.** Characteristic of samples included in the systematic review.

Variable	Category	Number of samples
Location	Europe	
	Denmark	4
	Finland	1
	Sweden	6
	Norway	2
	England	2
	Bosnia	2
	Australia	2
	Asia	
	Turkey	1
	Taiwan	2
	India	1
	Korea	2
	China	4
	Japan	1
	Lebanon	1
	Saudi Arabia	1
	USA	3
	Total	35
	Study design	Prospective
Cross-Sectional and case control study		12
Qualitative		2
Gender	Total	35
	Male	0
	Female	1
	Both male and female	34
Type of mental health problems	Total	35
	Mental health problems and mental health disorders	9
	Suicide	11
	ADHD and personality disorder	2
	Depression	7
	Post traumatic	1
	Substances abuse	4
	Stress	1
Type of childhood adversities	Total	35
	Household dysfunction	1
	Parent hospitalized	1
	Stepfamily	1
	Childhood adversities (one or more childhood adversities)	30
	Left behind children (LBC)	2
	Total	35
Age	Childhood (0–10 years)	1
	Adolescence (11–19 years)	9
	Childhood, adolescence, and young adult	20
	Not known	5
	Total	35

## Discussion

This systematic review study provided evidence of the relationship between childhood adversities and mental health problems. The results showed that childhood adversities were significantly related to mental health problems. The original studies in this systematic review were published from 2017 to 2021.

There are several pathways that explain the relationship between childhood adversities and mental health problems. Childhood adversities such as family dysfunction usually occur in families with low socioeconomic status, and have effects on the psychological development of children.<sup>20</sup> This situation also leads to stress among children<sup>21</sup> as well as depression.<sup>25,43,44,46,47</sup> In addition, parental conflict or parental divorce causes children to lose love and caring. Several studies also indicated that childhood adversities were associated with changes in the brain, specifically decreased hippocampal volume and impaired HPA axis.<sup>53</sup>

Childhood adversities that contributed to mental health problems in this study were: family dysfunction (household dysfunction, parental divorce, jobless parents for more than 9 months, parental criminality, parental hospitalization at psychiatric hospital, children living in orphanages, parent died, parents who were undergoing treatment, adoptive parents, and parental abuse. These childhood adversities had a strong relationship with mental health problems such as stress overload and decreased wellbeing, mental disorders such as anxiety, major depressive disorder, ADHD, personality disorders, mania, delusions, and hallucinations.<sup>20–24</sup> Based on these results, programs and interventions for children and adolescents, are needed especially to develop resilience and coping to deal with trauma in the family.

Another type of mental health problem related to childhood adversities was suicidal ideation and suicidal attempt.<sup>30–40</sup> Children with a parental history of suicide had more risk of suicide as well; this idea was caused by disruption of self-regulation. In addition, they were more likely to be depressed and tended to conduct self-injury.<sup>30</sup> Meanwhile, children with parental died and parental divorce also felt loneliness and sadness. These feelings also can lead to suicidal ideation.<sup>36</sup>

Childhood adversities were also associated with mental health problems: personality disorder<sup>42</sup> and ADHD.<sup>41</sup> Personality disorder was caused by the disruption of educational performance. The process of children's education was disrupted due to problematic families,<sup>20</sup> while ADHD was caused by parents with alcohol abuse. Pregnant women who are alcoholics can affect the fetus.<sup>41</sup> Childhood adversities were also associated with children's smoking behavior and alcohol abuse. This situation was caused by a lack of parental control over children's behavior, especially children who lived with only one parent due to divorce or living with adoptive parents.

**Table 2.** Study characteristics of mental health problems.

Author	Year	Study design	Country	Total sample	Age	Outcome	Childhood adversities	Focus of study
1 Andersen <sup>20</sup>	2020	Cohort study	Denmark	605,344	From birth to 17 years old	<i>Mental health problems</i> Diagnosed with a mental disorder (ICD-10 code: F00-F99) at a mental health facility at age 18 or 19.	Household dysfunction 1. Parental divorce 2. Prolonged unemployment 3. Incarceration of father 4. Inpatient treatment of parent for mental illness 5. Foster care placement of the child 6. Parental death	Household dysfunctions were associated with an increased risk of adverse outcome
2 Marcussen et al. <sup>21</sup>	January 2017–June 2018	Qualitative study	Denmark	27	Participants were children and young adults from divorced families or double bereavement at the age between 7 and 15 years old	<i>Mental health problem: stress overload and decreased wellbeing</i>	Parental divorce and parental cancer	Children and young adults' double bereavement related to stress overload and mental health problems
3 Merikukka et al. <sup>22</sup>	Data from Finnish Birth Cohort	Cohort	Finland	59,476	9–24 years old	<i>Mental disorder</i>	Parental psychiatric illness	Parental psychiatric illness is a risk for mental health children
4 Perales et al. <sup>23</sup>	May 2013–April 2014	Cohort	Australia	6310	4–11 years old 12–17 years old	<i>Mental disorder</i> 1. Anxiety 2. Major depressive disorder 3. ADHD 4. Conduct disorder 5. Any disorder	1. Original family 2. Stepfamily 3. Blended family 4. Other families	Children who live with one parent, are blended, and step experience mental disorders compared to children who live in their original family.
5 Turner et al. <sup>24</sup>	-	Cross-sectional	Australia	1825	18–34 35–65 years	<i>The Diagnostic Interview for Psychosis (DIP)</i> Depressive symptoms, mania, self-reproach, delusion, hallucination, and subjective thought disorder	Adverse event: <i>sexual abuse, physical abuse, emotional abuse and, neglect. Interpersonal loss (loss of a parent, sibling, divorce)</i>	All adverse event types were associated with anxiety, depression, and a definite psychosocial stressor

(continued)

Table 2. (Continued)

Author	Year	Study design	Country	Total sample	Age	Outcome	Childhood adversities	Focus of study
6 Hadžikapetanović et al. <sup>25</sup>	Mai–June 2011	Case-control study	Bosnia	168	High School Students and University students	Beck Depression Inventory -II	Divorced parents	Adolescents from divorced families had a significantly higher levels of depression
7 Houtepen et al. <sup>26</sup>	Data from the Avon Longitudinal Study of parents and children	Cohort study	UK	4917	Children born in 1991–1992	Depression, regular smoking, harmful drinking, illicit use of drugs	Adverse childhood experiences (ACE) (sexual, physical, or emotional abuse; emotional neglect; parental substance abuse; parental mental illness or suicide attempt; violence between parents; parental separation; bullying; and parental criminal conviction, with data collected on multiple occasions between birth and age 16)	Adverse childhood experiences were associated with depression, drug use, and smoking
8 Lee et al. <sup>10</sup>	2003–2007	Cohort	Taiwan	10,416	15–19 age years old	Depressive symptoms, suicidal ideation, and substance abuse	Childhood adversities: Physical abuse, parental problematic drinking, parental divorce, parental death, parental catastrophic health problems, family economic hardship	Physical abuse among children, family economic hardship had affected on depressive and suicidal ideation. Chronic parental problematic drinking had the highest levels of substance abuse
9 Shaikh et al. <sup>27</sup>	November 2017–December 2017	Cross-sectional	Saudi Arabia	296 female adolescents	12–16 age years old	Depression, anxiety, and stress	Marital discord	Marital discord related to poor psychosocial health in the child
10 Hirooka et al. <sup>28</sup>	January 2014	Cross-sectional	Japan	57	15–23 age years old	Post traumatic growth	Parental bereavement (parental death)	Parental bereavement was associated with PTG
11 Johnsen et al. <sup>29</sup>	January–February 2017	Qualitative	Norwegian	12 children	10–13 years old And living in two homes due to parental divorce	Distress	Parental divorce	Parents separation and living in two homes can be stressful for children

**Table 3.** Study characteristics of suicide and self-harm.

Author	Year	Study design	Country	Total sample	Age	Outcome	Childhood adversities	Focus of study
1 Björkenstam et al. <sup>30</sup>	December 2011–June 2012	Cohort study	Sweden	548,721	Individual born between 1987 and 1991 and childhood adversities before 15 age years old	Suicide	Childhood adversities before 15 age years old Parental death 1. Parental substance abuse 2. Parental crime 3. Parental psychiatric disorder 4. Parental separation 5. Receipt Public assistance 6. Residential instability Parental death during childhood	Childhood adversities are a risk factor for suicide
2 Carr et al. <sup>31</sup>	Danish Data Protection Agency	Cohort study	Denmark	1,698,821	Adolescents with parental death before 15 age years old	Self-harm	Parental death during childhood	Self-harm was increased following parental death during childhood
3 Guvendeger Doksat et al. <sup>32</sup>	January 2011–December 2013	Longitudinal	Turkey	2518	Children and adolescents	History of suicide attempts (HIAS)	Parental separation/divorce, parental mental disorder, alcohol, and drug use, and crime	Parental separation/divorce, parental mental disorder, alcohol, and drug use, and crime were the risk of HSA
4 Lee et al. <sup>33</sup>	-	Retrospective Cohort Design	Taiwan	40,249	Individual born 1978–1997	Suicide	Parental suicide	Individuals with parental suicide more likely to die by suicide
5 Mathew et al. <sup>34</sup>	2014	Qualitative	India	22	0–31 age years old Adolescents: 7 Young adult: 15	Suicide attempts	Parental conflicts and separation, conflict with a sibling, and marital disharmony	Hostile family environment contributed to suicidal behavior among adolescents and young adult
6 Park and Park <sup>35</sup>	2017–2018	Longitudinal study	Korea	118,715	Middle and high school students	Suicidal behavior	Remarriage and loss of parents	Suicidal behavior was related to the remarriage and loss of parents among adolescents
7 Spremo <sup>36</sup>	2020	Cross-sectional	Bosnia	590	14–18 age years old	Suicidal ideas	Incomplete families (divorce)	Children with incomplete families were thinking about suicidal
8 Stansfeld et al. <sup>37</sup>	2008	Cohort Study	UK	9377 female	7, 11, and 16	Suicidal attempts	Childhood adversity	Childhood adversity was a predictor of suicidal attempts among adolescents
9 Thompson et al. <sup>38</sup>	2001–2002	Cohort study	USA	1073	More than 18 years old	Suicidal attempts	Parental divorce and maternal paternal alcohol problems	The individual who experience a parental divorce as children or adolescents and who have parental alcohol abuse are more likely for suicidal attempts
10 Wang et al. <sup>39</sup>	2016	Cross-sectional	China	6284	15–25	Suicidal ideation in the past 12 months	Parental separation	Family factors had the most influence on suicidal ideation
11 Yoon et al. <sup>40</sup>	-	Longitudinal	Korea	8609	>19 years old	Suicidal ideation	Childhood experience of parental death (CEPD)	CEPD was related to suicidal ideation

**Table 4.** Study characteristics for ADHD and personality disorder.

Author	Year	Study design	Country	Total sample	Age	Outcome	Childhood adversities	Focus of study
1 Björkenstam et al. <sup>41</sup>	Medical birth register	Cohort	Sweden	543,650	Individuals born 1987–1991	ADHD	CA: 1. Family death 2. Substantial parental substance abuse 3. Substantial parental psychiatric disorder 4. Substantial parental criminality 5. Parental separation 6. Household living on public assistance 7. Residential instability	CA was a risk factor for ADHD
2 Björkenstam et al. <sup>42</sup>	-	Cohort study	Sweden	116,087	CA was measured between birth and age 14	Personality disorder	Childhood adversities (CA)	Childhood adversities (CA) were strongly associated with PD (personality disorder)



**Table 5.** Study characteristics for depression.

Author	Year	Study design	Country	Total sample	Age	Outcome	Childhood adversities	Focus of study
1 Björkenstam et al. <sup>43</sup>	-	Cohort study	Sweden	478,141	Individuals born in 1984–1988 Before 23 years old	Depression	Childhood adversities (CA)	CA predicted depression
2 Bohman et al. <sup>18</sup>	-	Case-control study	Sweden	382	Adolescent	Major depression disorder (MDD) in adulthood	Separated parents	Parental separation was associated with an increase in depression
3 Dahl et al. <sup>44</sup>	-	Prospective, cohort study	Denmark	978,647	All individuals born between 1980 and 1988, before 18 years old	Depression	Exposure Adversity included parental illness, incarceration, death, disability, and psychiatric diagnosis, family disruption, out of home, and childhood abuse	All adversities were significantly associated with increased risk for moderate to severe depression
4 Guang et al. <sup>45</sup>	December 2012–June 2013	Cross-sectional design	China	6227	7–17 years old	Depression	Left behind children: parents migrating to work in cities	LBC is more stressed and depressed compared to NLBC
5 Kravdal and Grundy <sup>46</sup>	2004	Case-control	Norway	1,125,257	20–44 age years old	Depression	Experiencing Parental divorce aged 0–20 age years old	Children who were aged 15–19 when their parents divorced were less likely to purchase antidepressants
6 Pham et al. <sup>47</sup>	-	Case-control study	USA	216 youths who lost a parent 172 youths non-parental death	7–18 age years old	Depression, post-traumatic stress disorder (PTSD) and functional impairment	Parental death	Youth with parental death showed higher depression
7 Sun et al. <sup>48</sup>	-	Longitudinal study	China	1620 students of elementary school	8–15	Depression	LBC more than 6 months	LBC was a predictor of depression

**Table 6.** Study characteristics for tobacco smoking and alcohol abuse.

Author	Year	Study design	Country	Total sample	Age	Outcome	Childhood adversities	Focus of study
1 Lindström and Rosvall <sup>49</sup>	2012	Cross-sectional	Sweden	28,029	18–80	Tobacco smoking	Parental divorce	Parental divorce was related to tobacco smoking among children
2 Jabbour et al. <sup>50</sup>	January and May 2019	Cross-sectional	Lebanon	1810	Mean Age: 15.42 years old	Alcohol abuse, higher cigarette, higher water pipe	Parental divorce	Parental divorce is correlated to higher alcohol and smoking
3 Waldron et al. <sup>51</sup>	-	Longitudinal Study	USA	3539	African America Twin: 17.22 European American Twins: 3539	Problem drinking	Parental separation, mothers who have a history of problem drinking	Parental divorce as moderator risk to children of mothers with a history of problem drinking
4 Watkins and Ohannessian <sup>52</sup>	2016	Longitudinal study	USA	863	11–15 age years old	VAPE	Parental marital status (parental divorce)	Adolescents with parental divorce more likely to use VAPE

## Limitation of the study

Some limitations in this study need to be considered and used as suggestions for further research. This study conducted a systematic review and has not yet measured the quantitative effect of the impact of family dysfunction, including childhood adversities on mental health. So a meta-analysis study is needed for further research.

## Conclusion

Childhood adversities such as household dysfunction, parental hospitalization, adoptive parents, and left behind children (LBC) were closely related to mental health problems according to the ICD-10 mental health disorders, ADHD and personality disorders, depression, post traumatic and stress, substance abuse, and suicide. Interventions for children with childhood adversities are needed to prevent mental health disorders among them.

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## Author contributions

The authors contributed equally.

## Declaration of conflicting interests

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## Ethics approval

We did not apply ethics because we conducted a systematic review. However, the protocol of this study was registered at Prospero number CRD42021277448.

## Significance for public health

A childhood adversity (CA) is a public health issue with broad implications for mental health. Data from WHO stated that more than 38% of adults in 21 countries have experienced CA. These conditions are life-threatening. So, therefore, the aim of this study was to conduct a systematic review of the relationship between childhood adversities and mental health problems. Childhood adversities such as household dysfunction, parental hospitalization, adoptive parents, and left-behind children (LBC) were closely related to mental health problems according to the ICD-10 mental health disorders, ADHD and personality disorders, depression, post traumatic ad stress, substance abuse, and suicide. Interventions for children with childhood adversities are needed to prevent mental health disorders among them.

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