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# Impact of social transition in relation to gender for children and adolescents: a systematic review

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#### **ABSTRACT**

**Background** Increasing numbers of children and adolescents experiencing gender dysphoria or incongruence are being referred to specialist gender services. Historically, social transitioning prior to assessment was rare but it is becoming more common.

**Aim** To identify and synthesise studies assessing the outcomes of social transition for children and adolescents (under 18) experiencing gender dysphoria/incongruence.

**Methods** A systematic review and narrative sythesis. Database searches (Medline, Embase, CINAHL, PsycINFO, Web of Science) were perfomed in April 2022. Studies reporting any outcome of social transition (full or partial) for children and adolescents experiencing gender dysphoria/incongruence were included. An adapted version of the Newcastle-Ottawa Scale for cohort studies was used to appraise study quality.

**Results** Eleven studies were included (children (n=8) and adolescents (n=3)) and most were of low quality. The majority were from the US, featured community samples and cross-sectional analyses. Different comparator groups were used, and outcomes related to mental health and gender identity reported. Overall studies consistently reported no difference in mental health outcomes for children who socially transitioned across all comparators. Studies found mixed evidence for adolescents who socially transitioned.

**Conclusions** It is difficult to assess the impact of social transition on children/adolescents due to the small volume and low quality of research in this area. Importantly, there are no prospective longitudinal studies with appropriate comparator groups assessing the impact of social transition on mental health or gender-related outcomes for children/adolescents. Professionals working in the area of gender identity and those seeking support should be aware of the absence of robust evidence of the benefits or harms of social transition for children and adolescents.

PROSPERO registration number CRD42021289659.

### INTRODUCTION

The number of children and adolescents identifying as a gender different from the sex they were registered as at birth has increased markedly across the world over the last 10-15 years. While there is no single definition of the term social transition, it is broadly understood to refer to social changes such as name change, using different pronouns or altering hair or clothing in order to live socially as a different gender, <sup>2 3</sup> but the degree and context of a social transition can vary widely. For some, using

#### WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ Increasing numbers of children and adolescents experiencing gender dysphoria/incongruence are being referred for care at specialist paediatric gender services.
- Historically, social transitioning prior to assessment in gender services was rare. Social role transition is increasingly common in children and adolescents.
- ⇒ The rates of mental health conditions in children/adolescents experiencing gender dysphoria/incongruence are higher than those of the general population.

#### WHAT THIS STUDY ADDS

⇒ The evidence base for all outcomes of social transitioning in childhood or adolescence is both limited and of low quality.

# HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Guidelines should reflect the limited evidence regarding the outcomes of social transition for children and adolescents experiencing gender dysphoria/incongruence. Robust high-quality research is needed.

a preferred name or clothing may be limited to home while others may change their name officially and seek to make changes across all social settings. Additionally, some may publicly acknowledge that they have made a social transition while others may wish to keep their birth-registered sex private and only known by a few significant others.

Social transition is becoming more common with children and adolescents changing key social characteristics to fit more closely with a different gender role. Children and adolescents presenting at gender services are increasingly likely to have undergone a full social transition. In the UK, 54.6% of children and adolescents referred to the Gender Identity Development Service in 2012–2013 had socially transitioned,<sup>4</sup> with increasing numbers internationally.<sup>5–7</sup>

Social transition among children is contentious with diverging views between clinicians as to its role and potential benefits or harms.<sup>3 8</sup> Social transition can be regarded as important for a child's mental health and well-being with a child leading the way in their gender expression, in line with a model of gender affirming care.<sup>3 8</sup> Social transition is also seen as a significant intervention which



# Original research

may alter the course of gender development with medical and surgical interventions being sought by children whose gender dysphoria/incongruence might not have otherwise persisted beyond puberty. Guidelines for children and adolescents experiencing gender dysphoria/incongruence published by the World Professional Association for Transgender Health (WPATH), with version 8 published in 2022, 11 have shifted from recommending an approach to social transition of 'watchful waiting' for children, to a position of advocating for social transition as a way to improve a child's mental health. Social transitioning among adolescents has not received the same level of interest in academic debate, nor do WPATH version 7 or 8 contain any specific discussion about the risks or benefits for adolescents.

Understanding what the evidence shows about possible benefits or harms is important for children and adolescents experiencing gender dysphoria/incongruence, parents who may be contemplating their child socially transitioning and for health-care professionals and others whose advice and support may be sought on this question. Therefore, this systematic review aimed to synthesise primary research on outcomes related to social transition for children and adolescents experiencing gender dysphoria/incongruence.

#### **METHODS**

The review forms part of a linked series of systematic reviews examining the epidemiology, care pathways, outcomes and experiences for children and adolescents experiencing gender dysphoria/incongruence and is reported according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.<sup>12</sup> The protocol was registered on PROSPERO (CRD42021289659).<sup>13</sup>

# Search strategy

A single search strategy was developed to identify studies examining gender dysphoria/incongruence in children/adolescents (see online supplemental file 1). The following bibliographic databases were searched with no date restrictions: MEDLINE (OVID), EMBASE (OVID), CINAHL (EBSCO), PsycINFO (OVID) and Web of Science (Social Science Citation Index). The first search was conducted between 13 and 23 May 2021 and updated on 27 April 2022. The reference lists of eligible studies and any relevant systematic reviews or clinical guidelines that were identified were also checked.

#### Inclusion criteria

Studies were included in relation to the following criteria:

Population: children and adolescents up to age 18, or adults who experienced as a child/adolescent, gender dysphoria/incongruence or gender-related distress, or referral to a paediatric/adolescent gender identity service.

Intervention/exposure: a broad definition of social transition was adopted including any element of what is commonly understood to comprise a social transition,<sup>3</sup> for example, name change, use of pronouns, change in appearance.

Outcomes: any outcome of social transition in childhood or adolescence (eg, mental health).

Study design: primary studies published in English in a peerreviewed journal of any design apart from case series and case reports.

#### **Study selection**

All search results were entered into Covidence and deduplicated. <sup>14</sup> Two reviewers independently assessed all titles and

abstracts and full texts of those identified as potentially eligible. Conflicts were resolved through discussion or consensus with a third reviewer.

#### **Data extraction**

Data were extracted by one reviewer and second-checked by another. Replication of participants across studies was noted.

# **Quality assessment**

Quality was assessed using a modified version of the Newcastle-Ottawa Scale, <sup>15</sup> a validated scale of eight items assessed across three domains: selection, comparability and outcome. Modification included, not scoring question(s) related to cross-sectional or longitudinal studies where relevant. The maximum possible score was 8. A score of 0–3.5 was deemed low quality, 4–5.5 moderate and 6–8 high. Two reviewers rated the papers independently with discussion to reach consensus.

#### **Synthesis methods**

Due to extensive differences in definition of social transition and measurement and reporting of outcomes, a narrative approach to synthesis and, where feasible an analysis of p values, effect direction and vote counting were used. The synthesis of data was led by the main comparisons in the included studies: child/adolescent, outcome and comparison group. Strength and direction of effects of social transition on outcomes was analysed from reported p values using albatross plots. <sup>16</sup> Vote counting <sup>17</sup> was also conducted and combined with quality assessment scores using harvest plots <sup>18</sup> and bar charts showing the number of studies reporting effects by direction and quality scores.

#### **RESULTS**

Overall, the searches identified 28 147 records, of which 3181 were considered as potentially relevant for the linked series of systematic reviews. From these, 13 studies were identified as relevant to this review of social transition.  $^{19-31}$  On closer inspection, four studies were excluded: social transition not treated as an exposure  $(n=3)^{22}$   $^{24}$   $^{26}$  or replication of analyses already published (n=1). Two studies were identified as meeting the inclusion criteria from reference lists of guidelines  $^{32}$   $^{33}$  (figure 1). Therefore, 11 studies were included in this review.

# **Study characteristics**

Of the included studies, eight were cross-sectional, <sup>19–21 23 27 28 30 33</sup> one was a reanalysis of previously published cross-sectional data, <sup>31</sup> one a prospective longitudinal study, <sup>32</sup> and one a retrospective cohort study. <sup>29</sup> The majority (n=7) were conducted in the US and/or Canada <sup>19 21 23 27 30–32</sup>; two in the Netherlands <sup>29 33</sup>; one in Brazil <sup>20</sup> and one in Germany. <sup>28</sup> Community samples were recruited in eight studies <sup>19–21 23 27 30–32</sup> and gender service patients were recruited in three studies <sup>28 29 33</sup> (online supplemental table 1).

Five US studies<sup>19</sup> <sup>21</sup> <sup>23</sup> <sup>30</sup> <sup>32</sup> included participants from the TransYouth Project, which is a longitudinal study of gender development among socially transitioned prepubertal children experiencing gender dysphoria/incongruence (age 3–12 years at start of study in 2013).<sup>24</sup> Four studies reported results from cross-sectional analyses of the cohort,<sup>19</sup> <sup>21</sup> <sup>23</sup> <sup>30</sup> and one study from longitudinal analyses.<sup>32</sup> Children and their families were recruited to this cohort using convenience sampling from support groups (online and face to face) and the sample includes more children from affluent families than expected. Most had parents supportive of early social transition. There is some crossover

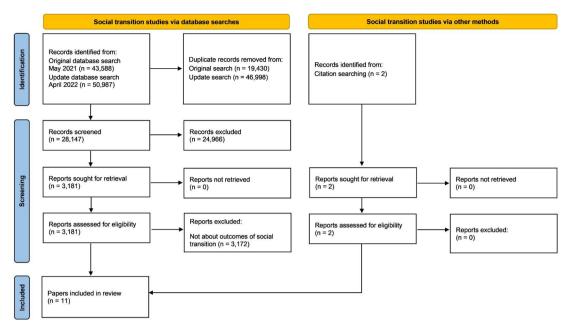


Figure 1 Study flow diagram.

of the samples between these studies but, as they are reporting different outcomes or child versus parent reports, all five studies were included. Two studies from the Amsterdam clinical population may also include overlapping samples, but this cannot be quantified so both were included. <sup>29</sup> 33

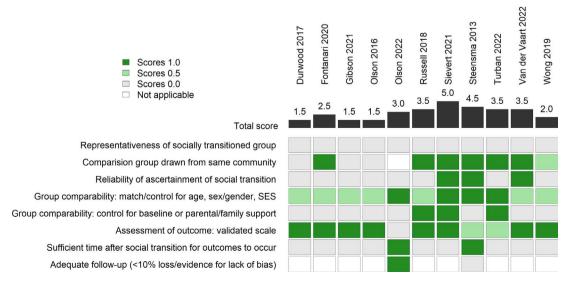
Children and/or adolescents were recruited in eight studies, <sup>19 21 23 28 29 31-33</sup> and two studies recruited a mixed group of adolescents and young adults. <sup>20 27</sup> The final study recruited adults with a history of childhood/adolescent gender dysphoria/ incongruence and created subgroups based on age of social transition (3–9 years childhood, 10–17 years adolescence, 18 + years adulthood). <sup>30</sup> How gender identity and/or gender dysphoria/ incongruence were determined and definitions of social transition and how this was established varied between studies (online supplemental table 1).

A range of mental health outcomes were reported across nine studies <sup>19–21</sup> <sup>23</sup> <sup>27</sup> <sup>28</sup> <sup>30</sup> <sup>31</sup> <sup>33</sup>; internalising symptoms, externalising

symptoms, self-worth, self-esteem, self-perception, suicidality, severe psychological distress, and drug and alcohol misuse. One study also included measures of gender positivity and gender distress. The remaining two studies focused on the constancy of gender identity across time as the outcome. <sup>29 32</sup>

#### **Quality assessment**

Overall, the quality of the papers was low to moderate with scores ranging from 1.5 to 5 (figure 2). Across all studies, the key methodological limitation was the approach to recruitment, relying on self-selecting groups or referral to gender services leading to samples which were unrepresentative of the broader population. A follow-up period between social transition and outcomes being measured was reported in three studies, <sup>29</sup> <sup>30</sup> <sup>32</sup> one of which relied on recall from adulthood. <sup>30</sup>



**Figure 2** Quality scores for included studies assessed using a modified Newcastle-Ottawa Scale. The grid indicates individual scores for each study on each of the criteria. Bars at the top (and numbers at top of bars) indicate overall score. SES, socioeconomic status.

# Original research

Three studies used a standardised method of ascertaining social transition. <sup>28</sup> <sup>29</sup> <sup>33</sup> The remaining studies used parent or self-report measures. All studies controlled or matched to some extent for age, birth-registered sex or gender identity, and socioeconomic status, however, three additionally controlled for baseline parental/family support. <sup>27</sup> <sup>28</sup> <sup>30</sup>

Seven studies used a comparison group drawn from the same population. 20 27-31 33 None of the studies using community samples of children included a suitable comparison group. Three studies compared children experiencing gender dysphoria/incongruence who had socially transitioned with a comparator group presumed not to experience gender dysphoria/incongruence, which included average population scores, and/or sibling and matched controls. 19 21 23 One study used previously published data for children with the same level of gender variance who had not socially transitioned, 31 however, they were reported by parents as having a gender identity that matched their birthregistered sex and so were not from the same population.

#### **FINDINGS**

The findings are presented in online supplemental table 2 and a visual summary of key outcomes is provided in figure 3.

#### **Socially transitioned children**

Six studies reported outcomes related to mental health <sup>19</sup> 21 23 28 31 33 and two studies reported gender stability/persistence. <sup>29</sup> 32

# Comparison group A: children not experiencing gender dysphoria/incongruence

Four studies reported mental health outcomes <sup>19</sup> 2<sup>1</sup> 2<sup>3</sup> 3<sup>1</sup> (figure 3A). Three studies using the TransYouth Project data <sup>19</sup> 2<sup>1</sup> 2<sup>3</sup> found no significant difference in depressive symptoms compared with population averages, <sup>19</sup> 2<sup>3</sup> siblings or matched controls across parent <sup>19</sup> 2<sup>1</sup> 2<sup>3</sup> and self-reported measures. <sup>19</sup> 2<sup>1</sup>

Variation was seen in results for levels of anxiety across groups and between parent and self-report measures. <sup>19</sup> <sup>21</sup> <sup>23</sup> Parent-reported levels of anxiety were significantly higher than population averages <sup>19</sup> <sup>23</sup> or matched controls, <sup>19</sup> <sup>21</sup> <sup>23</sup> but this was not seen for self-report comparisons to population averages, <sup>19</sup> and there were inconsistent results for the comparisons with matched controls. <sup>19</sup> <sup>23</sup> No significant, although some marginal, differences were seen in anxiety levels when compared to siblings across parent and self-reported measures. <sup>19</sup> <sup>21</sup> <sup>23</sup> Self-worth was explored in a single study and not found to be significantly different from matched controls or siblings. <sup>19</sup>

One study used data from three published studies<sup>22</sup> <sup>23</sup> <sup>34</sup> to make comparisons between children who socially transitioned and children who were gender variant but who identified with their birth-registered sex.<sup>31</sup> They found no significant differences in parent-reported internalising scores, externalising symptoms or poor peer relations.

# Comparison group B: children experiencing gender dysphoria/incongruence who have not socially transitioned

Three studies used this comparator <sup>28 30 33</sup> (figure 3B).

One clinic-based study found that the degree to which a child had socially transitioned was not associated with psychological functioning, <sup>28</sup> rather, socioeconomic status and poor peer relations were associated with internalising problems, and general family functioning and poor peer relations were associated with externalising problems. Another clinic-based study found no association between social transition status and any element of self-perception.<sup>33</sup> However, it found some differences when

the sample was stratified by sex; birth-registered males who had socially transitioned reported poorer self-perception in scholastic competence and behavioural conduct compared with non-socially transitioned birth-registered males.<sup>33</sup> Conversely, birth-registered females who had socially transitioned scored higher on athletic competence than non-socially transitioned birth-registered females.

The third study's comparison group were transgender adults who experienced gender dysphoria/incongruence as a child but did not socially transition until adulthood.<sup>30</sup> They looked at past-month severe psychological distress, lifetime illicit drug use, lifetime marijuana use, past-month binge drinking, and various measures of suicidality. The only significant result in either direction was lower odds of lifetime use of marijuana for those socially transitioning in childhood. Harassment based on gender identity during kindergarten to year 12 was not considered within the initial analysis, but post hoc analyses found that those who socially transitioned in childhood were significantly more likely to have been subject to harassment due to being thought of as transgender than those socially transitioning in adulthood. The study made no adjustment for other confounding variables when considering likelihood of harassment between groups that socially transitioned at different ages.

### Socially transitioned adolescents

# Comparison group C: adolescents experiencing gender dysphoria/incongruence who have not socially transitioned

Three studies used this comparator group 20 27 30 (figure 3C).

Internalising symptoms were assessed by two studies. 20 27 Adolescents who preferred to be called by another name compared with no preferred name use reported fewer symptoms of depression but there was no signficant difference in anxiety. 20 In another study it was found that among those with a preferred name, chosen name use in more social contexts was associated with fewer depressive symptoms. 27

One study assessed severe psychological distress and found no significant association between social transition in adolescence compared with adulthood. Outcomes related to suicide and suicidal ideation were assessed in two studies. The was found that chosen name use in more contexts was associated with lower suicidal ideation and behaviour, and social transition during adolescence was associated with greater odds of past-year suicidal ideation and lifetime suicide attempts compared with transition during adulthood. In the latter paper, six different measures of suicidality were explored and these were the only significant findings (online supplemental table 2).

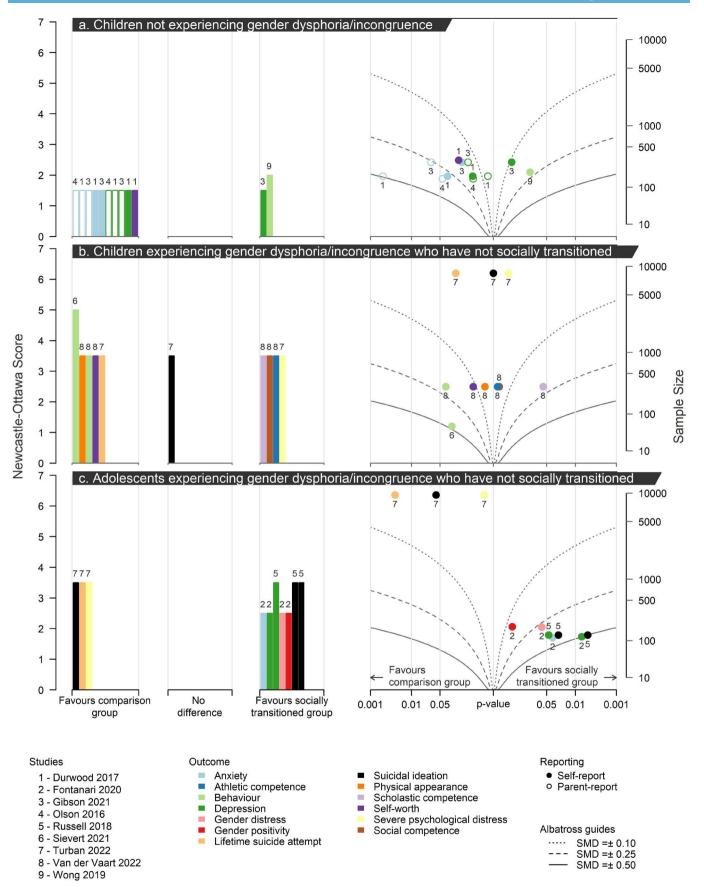
A single study reported gender-related outcomes.<sup>20</sup> Adolescents who preferred to be called by another name compared with no preferred name use reported higher levels of gender distress but there was no significant difference in gender positivity.

# Comparison group: socially transitioned children

Only one study compared outcomes between children who socially transitioned and those transitioning in adolescence, and found no difference on any measure of mental health, suicidality or drug and alcohol use between the two groups.<sup>30</sup>

#### Gender identity outcomes

Two studies assessed gender identity outcomes.<sup>29 32</sup> One study found a higher odds of persistence of gender dysphoria/incongruence in adolescence for children who had socially transitioned compared with those who had not socially transitioned. Analysis by birth-registered sex showed significant findings for



**Figure 3** Harvest plots showing direction of effect and quality scores (left) and albatross plots showing direction of effect, statistical significance and sample size (right) for included studies. Panels a, b and c separate studies into those comparing social transition against either those not expriencing gender dysphoria/incongruence (a) or those experiencing gender dysphoria/incongruence who have not socially transitioned (b, c), and also separates studies for children (a, b) and adolescents (c). SMD, standardised mean difference.

# Original research

birth-registered males but not for birth-registered females.<sup>29</sup> Another study found that 92.7% of those who socially transitioned between ages 3 and 12 continued to experience gender dysphoria/incongruence at the end of the study (on average, 5.4 years after socially transitioning).<sup>32</sup> The other 7.3% 're-transitioned' at least once; 2.5% identified with their birth-registered sex, 3.5% identified as non-binary and 1.3% had retransitioned twice. They found those socially transitioning before age 6 were more likely to retransition than those socially transitioning after age 6. There was no association between birth-registered sex and retransitioning.<sup>32</sup>

# **DISCUSSION**

There is limited, low-quality evidence on the impact of social transition for children and adolescents experiencing gender dysphoria/incongruence. Most published studies are cross-sectional with non-representative samples and lack an appropriate comparator group, and most studies were undertaken in the US. Of note, there are no prospective longitudinal studies with appropriate comparator groups which have assessed the impact of social transition on the mental health or gender-related outcomes for children or adolescents.

Given the poor quality of studies and multiple comparisons across studies, all findings from this review should be interpreted with caution. There were also inconsistent results between studies. For example, two studies suggest there may be some benefit associated with use of chosen name in adolescence. <sup>20–27</sup> However, in another study lifetime suicide attempt and past-year suicidal ideation was higher among those socially transitioning as adolescents compared with those socially transitioning in adulthood. <sup>30</sup>

Social transition has become the subject of clinical and academic debate, mainly centred on whether social transition is an active intervention with potential for benefits as well as risks or longer term consequences. Questions focus on the ways in which a social transition might alter the trajectory and development of gender identity and dysphoria/incongruence over time. Those concerned about altering the course of gender development in children cite previous studies demonstrating that only small numbers of prepubertal children who experienced gender dysphoria/incongruence continued to experience this after puberty. Published estimates on those 'persisting' range from 2% to 39% with an average of 15%. The concern then is that if children undergo an early social transition they may find it difficult to socially revert to their former gender.<sup>2</sup> By extension, some children may also then unnecessarily pursue medical and surgical interventions, so raising concerns about iatrogenic harm.9

In this review, two studies suggest that children who socially transition are more likely to continue to experience gender dysphoria/incongruence in adolescence, though one study found differences by birth-registered sex.<sup>29 32</sup> One of these studies also reported that the majority of those who socially transitioned progressed to medical interventions.<sup>32</sup>

There has been a shift over time in recommendations around social transitioning for children. In WPATH version  $7^{10}$  the evidence base was insufficient to understand long-term outcomes of an early social transition and therefore it advised, in line with a watchful waiting approach, that parents treat social transition as ongoing exploration rather than an 'irreversible situation'. Furthermore, it suggested that healthcare professionals could provide support in finding 'in-between' solutions rather than recommending full social transition. However, WPATH version  $8^{11}$  advocates more strongly in favour of childhood

social transition, although continues to recommend psychosocial care to support gender exploration for prepubertal children. Three main arguments are put forward for supporting social transition; first, that there is now evidence of improved mental health outcomes; second, that fluidity of identity is an insufficient justification not to socially transition; and third, that not allowing a child to socially transition may in itself be harmful. These statements are not supported from the findings of this systematic review.

Social transitioning among adolescents has not been subject to the same level of debate as for children and there are no specific recommendations in either version of the WPATH guidelines. Version 7 states that adolescents are more likely to persist in their gender identity than children, citing a study in which adolescents were prescribed puberty suppression<sup>36</sup> and acknowledge the lack of prospective studies. Version 8 includes a separate chapter for adolescents containing recommendations that healthcare professionals should 'work with parents, schools and other organisations to promote acceptance and affirmation for instance through using preferred pronouns, preferred name, and supporting choices of clothing and hairstyle'. There is not, however, discussion about potential benefits or harms of social transition and indeed no mention of this term.

This review has shown that we have little evidence of the benefits or harms of social transition for children and adolescents.

# **Strengths and limitations**

Strengths include a published protocol with robust search strategies and comprehensive synthesis. The review only included studies published in English which is a limitation. The primary research included in this review was of low quality which limited the conclusions that could be drawn. As searches were conducted in April 2022 this review does not include more recently published studies; as this is a rapidly evolving area this is a limitation.

There is an urgent need to undertake high-quality and robust research to address the key unanswered questions:

- 1. Does social transition alter the trajectory of gender development?
- 2. Does social transition improve (or worsen) gender dysphoria?
- 3. Does social transition improve mental health outcomes?
- 4. What is the relationship between socially transitioning and outcomes not examined (eg, impact on peer relations/social difficulties, quality of life, body satisfaction)?
- 5. What are the long-term outcomes of social transition?

# **CONCLUSIONS**

The studies included in this review are of low quality, therefore, it is difficult to assess the impact of social transition in this population. Importantly, there are no prospective longitudinal studies with appropriate comparator groups which have assessed the impact of social transition on the mental health or gender-related outcomes for children or adolescents experiencing gender dysphoria/incongruence. Healthcare professionals, clinical guidelines and advocacy organisations should acknowledge the lack of robust evidence of the benefits or harms of social transition when working with children, adolescents and their families.

**Contributors** LF, CEH and TL contributed to the conception and design of this review. Data collection was led by CH, JT and RH. Analyses were undertaken by RH, SWJ and LF. RH drafted the first version of the manuscript. All authors reviewed the manuscript prior to submission. CEH accepts full responsibility for the finished work

and/or the conduct of the study, had access to the data, and controlled the decision to publish.

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Patient consent for publication Not applicable.

Provenance and peer review Commissioned; externally peer reviewed.

**Data availability statement** Data sharing is not applicable as no datasets were generated and/or analysed for this study.

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