Received: 1 February 2022 | Revised: 23 March 2022 | Accepted: 4 April 2022

DOI: 10.1002/erv.2909

WILEY

REVIEW

Universal programs to prevent eating disorders in children and adolescents: A scoping review of ethical, legal, organizational and social impacts

Alezandra Torres-Castaño[1,2] | **Janet Delgado-Rodríguez**[1] | **Tasmania del Pino-Sedeño**[1,2,3] | **Daniel Estaña Malaret**[1] | **Ana Maria de Pascual**[1] | **Ana Toledo-Chávarri**[1,2,3] | **Pedro Serrano-Aguilar**[2,3,4]

[1]Canary Islands Health Research Insitute Foundation (FIISC), Tenerife, Spain

[2]The Spanish Network of Agencies for Health Technology Assessment and Services of the National Health System (RedETS), Madrid, Spain

[3]Research Network on Health Services in Chronic Diseases (REDISSEC), Madrid, Spain

[4]Evaluation Unit of the Canary Islands Health Service (SESCS), Tenerife, Spain

Correspondence
Alezandra Torres-Castaño, Canary Islands Health Research Institute Foundation (FIISC), The Spanish Network of Agencies for Health Technology Assessment and Services of the National Health System (RedETS), Tenerife, Spain.
Email: atorrcas@sescs.es

Abstract

Background: Appropriate and timely consideration of ethical, legal, organizational, and social issues in universal preventive programs for eating disorders (UPPED) are relevant for the approval, funding and implementation of health-policy decision making.

Objective: To identify and analyse the ethical, legal, organizational, and social aspects involved in interventions aimed at the universal prevention of eating disorders (ED) in children, pre-adolescents and adolescents in the school settings.

Method: A scoping review of the literature was carried out. MEDLINE, EMBASE, CENTRAL, PsycINFO, and Social Science Citation Index were searched for studies published in English or Spanish. The quality of the studies was assessed using specific scales for each study design.

Results: Fourteen studies were included: one scoping review; four narrative reviews, six observational studies, two qualitative studies, and one mixed methods study. Results were narratively synthesised according to: (1) equity; (2) gender perspective; (3) potential harm; (4) participants and facilitators profile; (5) feasibility; and (6) acceptability.

Conclusions: Interactive programs with relevant contents for participants have greater acceptability. Programs focussed on developing competencies can reduce the risk of potential harm. Incorporating a gender perspective contributes to improving equity. Teachers with prior training in ED are well suited as facilitators of these programs.

KEYWORDS
adolescence, anorexia nervosa, childhood, disorders, preventive, programs and eating, universal

Abbreviations: AN, anorexia nervosa; ED, eating disorder; EUnetHTA, European Network for Health Technology Assessment; HTA, health technology assessment; NR, narrative review; SR, scoping; SR, systematic review; UPPED, Universal Preventive Programs for Eating Disorders.

Key points

- EDs can lead to health problems such as increased mental morbidity, heart and kidney disease, and increased mortality. In addition, the economic impact of EDs is high
- Universal preventive programs for ED are of particular interest, since they constitute an efficient approach for early prevention
- The consideration of ethical, legal, organisational and social issues in universal preventive programmes for eating disorders are relevant to the approval, funding and implementation of health policy decisions
- Teachers with prior training in ED are well suited as facilitators of these programs
- A research need arising from the study is to assess whether population-focussed or universal programmes work better and whether there is any ethical, legal, organisational and social impact

1 | INTRODUCTION

Eating disorders (ED) are multifactorial mental health conditions characterised by severe and persistent disturbance in eating behaviours and associated distressing thoughts and emotions. The most common ED are anorexia nervosa (AN), bulimia nervosa, plus six other unspecified conditions (American Psychiatric Association (APA), 2021). In recent years, several risk factors for ED have been identified in longitudinal studies, including frequent dieting, restrictive eating, as well as extreme concern about weight and body shape (Jacobi et al., 2014). Currently, it is estimated that 5% of the world population has an ED. This percentage increases to 10% when partial and subclinical forms of ED are included, with a continuous increase in their incidence (Stice et al., 2009, 2013). ED is specifically among adolescents, the most prevalent chronic disorder after obesity and asthma (Grupo de trabajo de la Guía de Práctica Clínica sobre Trastornos de la Conducta Alimentaria, 2021).

Without interventions, ED can lead to health problems such as increased mental health morbidity, heart and kidney diseases (Dures et al., 2014; Wang et al., 2018), and increased mortality (Smink et al., 2013). In addition, the economic impact of ED is high. The direct healthcare costs (diagnosis, treatment and supervision or control; Koran et al., 1995) and, more specifically, hospitalisation costs, are 3.5 times higher than those corresponding to the general population (Koran et al., 1995; Krauth et al., 2002). Likewise, reaching those who would benefit from treatment has encountered difficulties. As such psychological factors related to motivation and denial mean that those who suffer from these disorders often hide the symptoms and avoid seeking professional help due to feelings of shame or fear of stigma (Arseniev-Koehler et al., 2016; Becker et al., 2010; Swanson et al., 2011). Furthermore, social aspects, such as cultural practices, social norms, or inequalities in access to health services, may explain the chronification of this health problem (Becker et al., 2010).

In order to preserve anonymity, people with ED increasingly seek information and support on different websites and social networks, which are not always scientifically validated. In this scenario, universal preventive programs for ED (UPPED) are of particular interest, since they constitute an efficient approach for early prevention (Wang et al., 2018).

Two different age peaks have been described for the onset of AN: under 15–16 years of age and over 18 years of age, with the focus on children and adolescents as the main population groups at risk of developing clinical or subclinical ED (Weigel et al., 2015). Considering that knowledge improvements are not enough to prevent the development of ED in children and adolescents (Anne Stewart et al., 2001; Dalle Grave et al., 2001; Littleton & Ollendick, 2003; Smolak et al., 1998), it is necessary to include other aspects related to self-esteem, social norms, and behavioural aspects, among other. Nowadays, the different UPPED include media literacy programs, programs based on cognitive behavioural therapy, obesity prevention, self-esteem improvement or multicomponent programs.

Although several UPPED programs have been introduced, not much is known about the ethical, social, and organizational considerations that may affect the feasibility and acceptability of these interventions.

In order to evaluate the convenience of funding these interventions (Bullivant et al., 2020; Doley et al., 2017; Littleton & Ollendick, 2003), the Spanish Ministry of

health commissioned the development of a health technology assessment (HTA) report in April 2020, to evaluate the effectiveness and cost-effectiveness of UPPED in children, pre-adolescents and adolescents (del Pino Sedeño et al., 2021). The results of this report showed that the application of UPPED in children and adolescents in the school setting compared to usual care (no preventive interventions) does not affect the levels of concern about shape, body dissatisfaction, drive for thinness, pressures from media and internalisation of current beauty ideal, self-esteem, body esteem, quality of life and general state of health. However, these interventions slightly increase weight-related concerns and it was only the girls who participated in these programs who presented a reduction in the symptoms of ED in the short term. UPPED increases the possibility of having an impact at the individual, group and community level, in reducing the probability of developing an eating disorder. Although multicomponent intervention provides slight short-term benefits for patients, there is uncertainty regarding whether its inclusion in routine practise would be a cost-effective strategy.

As part of this report, a scoping review (SR) of the literature was carried out to respond to the question: Would the introduction in the school environment of UPPED in children, pre-adolescents and adolescents (under 18 years of age) give rise to new ethical, social, legal or organizational problems? This paper addresses the evaluation of ethical, legal, organizational, and social-related aspects assessed in this HTA report (EUnetHTA, 2016).

1.1 | Objectives

The aims of the present study are to identify and analyse the ethical, legal, organizational and social aspects related to the school implementation of interventions available in UPPED in children, pre-adolescents and adolescents (under 18 years of age).

1.2 | Methodology

A (SR) was performed according to the recommended five-step framework for scoping reviews (Arksey & O'Malley, 2005; Munn et al., 2018; Pham et al., 2014; Tricco et al., 2016). A detailed protocol for the review was developed by the research team and further approved by the Spanish Ministry of Health (available from the corresponding author on request). The assessment of ethical, legal, organizational and social aspects related to these interventions was carried out adapting the framework of the Core Model 3.0 of EUnetHTA (2016) and the criteria established by Spanish Network of Agencies for Health Technology Assessment for the National Health Service. According to these criteria, the ethical analysis is mainly focussed (but not exclusively) on the risk-benefit balance, autonomy, respect for persons, justice and equity, etc. The legal aspects are mainly focussed (but not only) on the autonomy of the participants, privacy, equality in healthcare, authorisation and safety, and regulation of the market, among others. The organizational aspects assess the health delivery process (for instance, a new intervention may require new kinds of professionals or new tasks for existing personnel, besides communication and co-operation), access-related issues considering the potential role of telecommunications and e-health, direct related costs, as well as the management problems and opportunities attached to the interventions, among others. The social analysis includes the participants' and caregiver's perspectives regarding the interventions, as well as the professional's views; communication aspects (for instance what specific issues may need to be communicated to participants); and social group aspects (such as factors that could prevent a group or person from gaining access and adherence to the interventions).

1.3 | Information sources and search strategy

Systematic searches for research articles were performed in the electronic databases MEDLINE (OVID interface), EMBASE (Elsevier interface), and Web of Science (Web of Science interface) until May 2020. The search strategy was initially developed in MEDLINE, using a combination of controlled vocabulary and free text terms and was then adapted for each of the other databases. The full search strategy is available from the study authors. Search terms included the following: prevention, child, adolescent and eating disorders. Searches were limited to the English and Spanish languages and no date restriction was imposed. The Medline search strategy can be found as supplementary material.

1.4 | Selection criteria

Studies were eligible for inclusion if they fulfiled the following criteria:

1. Design: Qualitative, quasi-experimental, and observational studies; systematic and narrative reviews covering ethical, legal, organizational, and social aspects.

2. Language: Articles published in English and Spanish.
3. Population: Children, pre-adolescent and adolescent population (under 18 years of age) in the school setting (primary, secondary and high school).
4. Intervention: considered UPPED included interventions to develop critical thinking skills concerning all types of media (media literacy), or for the improvement of self-esteem, prevention of obesity or multi-component interventions. Selective preventive interventions targeting specific populations at higher risk of developing ED were not addressed (programs aimed only at adolescent girls or elite athletes); nor the indicated preventive interventions aimed at people with symptoms of ED, regardless of diagnosis.
5. Comparison: No intervention, minimal control intervention, or other potential interventions.
6. Outcomes were selected from the categories and domains set out in the EUnetHTA Core Model 3.0 on ethical, legal, organizational, patient and social aspects (EUnetHTA, 2016). The ethical outcomes included: morals, values, risk-benefit balance, autonomy, human dignity, human rights. Selected legal outcomes were: laws and norms related to the interventions to be evaluated, privacy and data protection. Organizational outcomes included: work processes or work flow, planning or implementation, information needs, acceptability by professionals. Finally, the social outcomes were: participant perspective and preferences, caregiver's perspective, self-care, self-management, experiences, expectations, wishes, burden, choices, information needs and communication.

1.5 | Study selection

Firstly, the titles and abstracts were evaluated to determine their relevance to the selection criteria. Subsequently, the full text of the relevant articles was assessed based on the inclusion criteria. The study selection process was performed independently by two reviewers. Doubts or disagreements were resolved by discussion, and when necessary, with the participation of a third reviewer.

1.6 | Data collection process

Data extraction from the included studies was conducted by two reviewers. The data collection included the identification of the article (authors, publication date, country, etc.), methodology (design, intervention characteristics, participants characteristics, etc.) and study results.

1.7 | Quality assessment

The methodological limitations of the studies were assessed with specific scales for each type of study: CASPe tool for qualitative studies (Cano & González Gil, 2010), Osteba critical reading card for cohort studies (Servicio de Evaluación de Tecnologías Sanitarias (Osteba), 2020), AMSTAR tool for SR (Shea et al., 2017), SANRA scale for narrative reviews (Baethge et al., 2019) and the Mixed Methods Appraisal Tool for mixed methods studies (MMAT; Hong et al., 2018).

1.8 | Synthesis of results

The data analysis was performed by means of a thematic analysis, through which patterns extracted from the included studies could be identified, analysed and reported (Braun & Clarke, 2006). In the final step of this analysis, the writing up, a narrative synthesis of the identified patterns and themes was produced.

2 | RESULTS

From a total of 844 initially identified references (688 after eliminating the duplicates), 42 were selected after the first screening round by title and abstract. After the second screening round, based on full-text revision, 14 studies were finally included. Figure 1 shows the flow chart of the study selection process.

2.1 | Characteristics of included studies

The main characteristics of the included studies are summarised in Table 1. Except for one Spanish study (Braun & Clarke, 2006), most were published in English from their inception to until 2020; comprising one systematic review (SR) (Pratt & Woolfenden, 2002); four narrative reviews (NR) (Littleton & Ollendick, 2003; Neumark-Sztainer, 1996; Piran, 2010; Sánchez-Carracedo et al., 2012), six observational studies (Anderson et al., 2017; Berger et al., 2014; Contreras Jordán et al., 2012; Neumark-Sztainer et al., 2003; O'Dea & Abraham, 2000; Wilksch et al., 2006), two qualitative studies (González et al., 2015; Haines et al., 2008), and one mixed-methods study (Rosenvinge & Westjordet, 2004). Considering all these studies, a total of 6805 participants (boys and girls with ages between 11.1 and 16 years), and 112 primary and secondary school teachers and staff, were included.

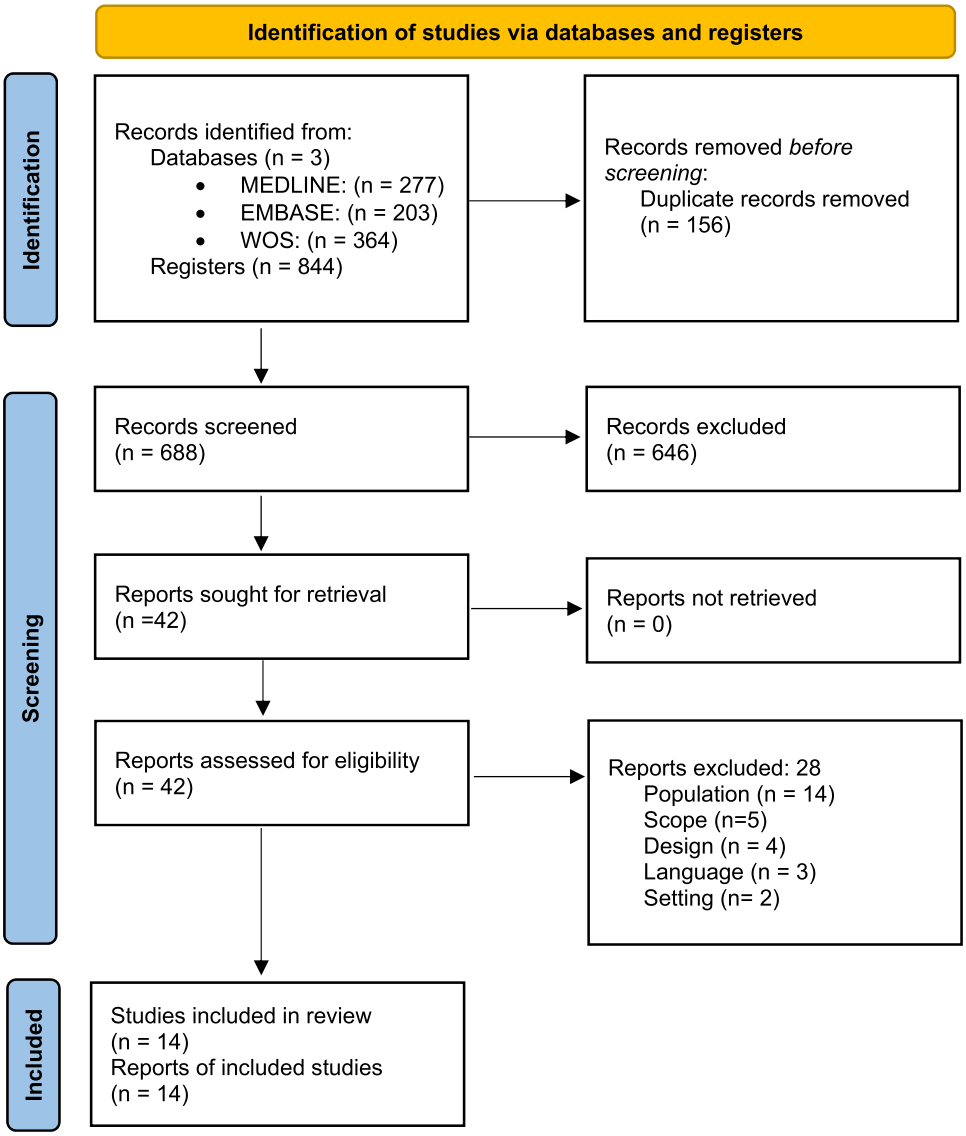

FIGURE 1 Flow diagram of the selection process of studies [Colour figure can be viewed at wileyonlinelibrary.com]

The assessed programs were the following: How to Manage Serious Mental Illness in Schools (HMSMIS; Anderson et al., 2017), Torera (Berger et al., 2014), Media Literacy and Nutrition Knowledge (González et al., 2015), Media Literacy Curriculum (Wilksch et al., 2006), Very Important Kids (Haines et al., 2008), Everybody's Different (O'Dea & Abraham, 2000), and school based programs (Contreras Jordán et al., 2012; Rosenvinge & Westjordet, 2004). These programs included a variety of interventions focussed on reducing the distortion of body image (Contreras Jordán et al., 2012); media literacy and nutrition knowledge (González et al., 2015; Wilksch et al., 2006); the development of self-esteem and self-confidence (O'Dea & Abraham, 2000); improvement of personal and social relevance (Haines et al., 2008); information about signs, symptoms and consequences of ED (Rosenvinge & Westjordet, 2004).

2.2 | Quality assessment

The quality of the included cohort studies was moderate, due to their limited external validity and the absence of a conflict of interest declaration (Anderson et al., 2017; Berger et al., 2014; Contreras Jordán et al., 2012; O'Dea & Abraham, 2000; Wilksch et al., 2006). The narrative reviews (Littleton & Ollendick, 2003; Neumark-Sztainer, 1996; Piran, 2010; Sánchez-Carracedo et al., 2012) were also of moderate quality, mainly due to the lack of description of the literature search and scientific argumentation. The systematic review (Pratt & Woolfenden, 2002) was rated as being of moderate-high quality, except for the fact that publication bias was not assessed. The mixed methods study (Rosenvinge & Westjordet, 2004) was of moderate quality because it did not present an interpretation of the data based on a mixed

TABLE 1 Main characteristics of included studies

First author, year	Objective	Design	Population	Main findings	Methodological limitations of the studies
Anderson, 2017	To examine the feasibility, acceptability, and effectiveness of a staggered professional development ED prevention programme.	Quasi-experimental pre/post study	69 primary and 43 secondary school teachers and staff.	Teachers are better equipped to identify people at risk for an ED and refer them to appropriate services, increasing the likelihood of recovery. Teacher training improves their self-efficacy. It is necessary to develop programs with multiple contents.	The quasi-experimental design did not include a control group. It is hard to know if increases in students' perceptions of susceptibility, severity, and self-efficacy will actually lead to action. It is not possible to know which individual elements of the programme were more influential.
Berger, 2014	To evaluate the effects of a primary prevention programme in the German school ("Torera") for undergraduate students.	Quasi-experimental pre/post study	256 boys and 277 girls, aged between 11 and 13 years old. M: 12.03	The programme reduces ED risk behaviour, especially in those at high risk. The application of the programme by the teachers favours its sustainability. They recommend implementing a primary prevention intervention, which could be complemented with a programme aimed at higher-risk students and their parents.	Sample selection could have biased the results, all main analysis were performed to control for baseline differences between groups. The sample size did not allow for analysis with sufficient statistical power. The analysis does not provide information on possible interactions between the different contents of the programme.
Contreras, 2012	To check the effectiveness of a physical education programme to prevent distortion and dissatisfaction of the body image of secondary education pupils.	Quasi-experimental pre/post study	341 boys and 332 girls, aged between 12 and 14 old. M:12.74	The physical education programme to reduce the distortion of body image, especially among 12 and 13-year-olds seems effective. Relevance of physical education content in the classroom to help reduce and prevent the early development of body dissatisfaction.	No methodological limitations are noted
González, 2015	To explore the perceptions and attitudes of a group of boys in a quasi-experimental study of an ED prevention programme. As well as gender comparison considering the findings obtained in girls by González et al. (2013).	Qualitative study (semi-structured interviews)	12 boys and 12 girls M: 13.5 years.	In comparison with a previous study carried out with girls, they found that boys showed healthier eating patterns and fewer worries about eating. In both girls and boys, the role of consumer culture in the acceptance of body	The interviews with the boys were conducted approximately 1 year after the interviews with the girls. Since the results are not generalisable, the factors highlighted by the participants need to be explored in future.

(Continues)

TABLE 1 (Continued)

First author, year	Objective	Design	Population	Main findings	Methodological limitations of the studies
				image was observed.The participants valued interactive methods that facilitate participation, as well as constructivist methodologies.	
Haines, 2008	To assess children's opinions about participating in a school-developed theatre programme (Very important Kids) and establish their perceptions of how their participation influenced their attitudes and behaviours related to body weight.	Qualitative study (focus groups)	4 boys and 11 girls, from elementary and middle school who participated in a theatre programme.	The participation of students in theatrical activities contributed to improve the personal and social relevance of the contents and the internalisation of the intervention. Weight-related perceived outcomes were: improved resilience to comments from others; changes in communication with peers, improvement in body satisfaction.	The study sample was not representative of broader populations of primary school children because it was limited to a convenience sample of children and parents from an urban primary school. The sample size made it impossible to evaluate different themes across gender and ethnic/racial subgroups.
Littleton, 2003	To critically evaluate the psychoeducational programs that have been developed. Propose several possible strategies on how such prevention programs can be modified to improve their effectiveness.	Narrative review	Children and adolescents.	Recommendations: 1- Incorporation of multiple approaches to improve impact, 2- more durable, 3- participants with different levels of symptoms, 4- more changes in the social environment, 5- training programs to identify the traits of people with a ED, f) healthy food in schools 6- physical activity, 7- teacher education about their attitudes and behaviours towards food and body image, 8- family education about healthy eating, signs of an eating disorder, 9- formation of discussion groups among students with a facilitator trained in ED.	No methodological limitations are noted

TABLE 1 (Continued)

First author, year	Objective	Design	Population	Main findings	Methodological limitations of the studies
Neumark-Sztainer, 1996	To describe a framework for engaging schools in primary and secondary prevention of ED.	Narrative review	Students of all ages from preschool to college.	Aspects to include in ED primary prevention programs: 1) Delineate a target audience; 2) teacher training; 3) integration within the school curriculum; 4) offer healthy meals at school; 5) promote physical activity; 6) activities that integrate the family and the community; 7) start with a small programme with the youngest; 8) establish links with health services to facilitate referral; 9) ecological approach aimed to changes at the individual and environmental level; 10) evaluation.	No methodological limitations are noted
Neumark-Sztainer, 2003	To identify correlates of unhealthy weight control behaviours in adolescents to guide the development of programs aimed at the primary prevention of ED.	Cross-sectional study (survey)	4746 adolescents M: 14.9 years	Personal factors are correlated with weight control behaviours, as well as the social and family norms of weight control, the scoffing for the weight that came from the family and the peers. As a common aspect, the importance of relationships in the immediate environment of adolescents has been found for girls and boys.	The cross-sectional nature of the design in this study limits the ability to assume causality. The difficulty in including certain variables in the model does not exclude their importance as a predictor of unhealthy weight control behaviours.
O'Dea, 2000	To explore the effect of an interactive educational programme, based on self-esteem, body image, attitudes and eating behaviours of boys and girls.	RCT (post-intervention evaluation)	173 boys y 297 girls. High school students, aged between 11.1 and 14.5	Body image, attitudes towards food, and self-concept and social pressure on body image are improved. Boys and girls benefited from the intervention by learning from each other's experiences, greater tolerance, gaining self-confidence, identifying their positive points, and reinforcing the value of	No methodological limitations are noted

(Continues)

TABLE 1 (Continued)

First author, year	Objective	Design	Population	Main findings	Methodological limitations of the studies
				being different. Family involving improved the results. This approach was shown to be safe and effective in modifying unhealthy eating practices, body image, and ED attitudes and behaviours.	
Piran, 2010	To analyse risk factors and prevention factors in the field of eating disorders from a feminist perspective.	Narrative review	N/A	Risk factors for ED: Gender, intersecting with other social variables and examining its relationship with risk factors at the individual level. Recommendations:-The prevention work must be carried out through participation in critical dialogs, so that participants can develop and pursue, in a positive relational context, an active critical position towards adverse cultural pressures.	No methodological limitations are noted
Pratt, 2002	To determine if ED prevention programs for children and adolescents are effective in: 1- Promoting healthy attitudes and behaviours; 2- promote protective psychological factors; 3- promote physical health; 4- have long-term sustainable positive impact on mental and physical health	Systematic review	Children and adolescents. Studies with general population children and adolescents and other specific population samples (eg, "high risk") without a DSM-IV ED diagnosis.	There is not enough evidence to suggest that the included prevention programs are effective in promoting healthy eating attitudes and behaviours in children and adolescents. More studies are needed on the incidence and prevalence of eating disorders, as well as more RCTs to evaluate prevention programs, with long-term follow-up measures. There is not enough evidence on the potential risk of these programs.	No methodological limitations are noted

TABLE 1 (Continued)

First author, year	Objective	Design	Population	Main findings	Methodological limitations of the studies
Rosenvinge, 2004	To report on a school intervention that explores the effect of information on the development of eating disorders	Survey	43 boys and 64 girls, from elementary school students aged 15–16 years.	The students positively valued the information received about the signs, symptoms and consequences of ED. They disagreed that the information could potentially cause harm by providing diet ideas or inducing ED. The analysis of the interviews revealed 5 trends: 1- Concern about thinness as a sign of perfection, 2- use of information about diets they received to be thinner, 3- they recognized the potential harm of diets in others, but not on themselves since they could go on diets without losing control, 4- they valued the information on ED to better understand and help their peers, 5- they wanted to have an active part in the intervention in terms of group discussions.	It was not possible to carry out a previous design that included measures of behaviour and attitude relevant to ED
Sánchez, 2012	To review the main reasons for implementing an integrated approach to problems related to diet and weight, including prevention of both eating disorders and obesity	Narrative review	N/A	Recommendations: Inclusion of families and peers to promote health and to prevent them from contributing to body dissatisfaction and disordered eating behaviours. Teacher education to promote changes in the school environment. Train healthcare professionals to consider shared risk factors for obesity and ED. Encourage multi-level activities and political initiatives to prevent body image problems and ED.	No methodological limitations are noted

(Continues)

TABLE 1 (Continued)

First author, year	Objective	Design	Population	Main findings	Methodological limitations of the studies
Wilksch, 2006	1) to evaluate the satisfaction of the participants and the perceived value of the intervention; 2) to evaluate the effectiveness of the lessons aimed at a universal population; 3) to examine which students are most likely to benefit from the intervention.	Quantitative post-intervention study	100 girls and 137 boys, from elementary school M: 13.79 years.	80% of the young people enjoyed the intervention, 92% considered it useful. The themes that the students identified as important were: understanding the misleading of the images that arrive through the media and an improvement in personal acceptance. In girls, the effectiveness of the intervention was lower due to high baseline scores, which means that girls require more intensive programs.	The absence of a control group limits the ability to significantly interpret changes from baseline to post-intervention. The small sample size and the exclusive participation of private schools were other limitations. EDs were not measured due to concern expressed by a school principal that such questions may inadvertently provide information on eating disorders.

Abbreviations: ED, eating disorder; M, mean; N/A, non-applicable; RCT, randomized controlled trial; SATAQ-3, Sociocultural Attitudes Towards Appearance Questionnaire-3.

methods approach. The two qualitative studies (González et al., 2015; Haines et al., 2008) were rated as being of moderate quality, because of the low score in the item related to the consideration of the researcher's relationship with the object of study (reflexibility), besides of generalisability limitations.

2.3 | Synthesis of results

The main results of the included studies are also summarised in Table 1. A narrative synthesis of the review results was carried out and the main findings were organised according to six different relevant dimensions extracted from the included studies: (1) equity; (2) gender perspective; (3) harm reduction; (4) participant profiles; (5) feasibility; and (6) acceptability.

2.3.1 | Equity of UPPED versus focussed ED preventive programs for specific populations.

Although ED preventive programs can be designed for specific populations (girls or/and boys at higher risk); UPPED reach large groups of either the community or school population, increasing the likelihood of positive changes in beliefs and stereotypes with respect to the notion of "ideal weight", weight control strategies and eating and exercise behaviours. Preventive interventions could be applied through participation in critical dialogs which, under conditions of equity, security and mentorship, promote a critical approach to the context of body weight and concern about body shape. As such, participants will be able to develop and pursue, in a positive relational context, an active critical position towards adverse cultural pressures (Piran, 2010).

2.3.2 | Gender perspective

Equity and gender perspectives are clearly interrelated in this context. UPPED including boys and girls may lead to environmental transformations and more sustainable changes (Piran, 2010). Programs with gender perspective looking for the transformation of social systems also seek to reinforce equity (Piran, 2010). According to Neumark-Sztainer (1996), inclusive approaches should consider common and specific gender relevant dimensions of prevention programs, by means of critical analysis of gender stereotypes (González et al., 2015), since boys concerns (more interested in a muscular body), and girls worries (more concerned about being thin), do not often match. Both gender perspectives converge, however, on

the potential impact of body images in social relationships (Neumark-Sztainer et al., 2003).

2.3.3 | Reducing the potential harm

The potential negative impact of providing information on ED including weight management methods (starvation, vomiting, laxative abuse) has favoured the current change towards a health promotion paradigm in the prevention of ED. Consequently, information about these behaviours could be replaced by strategies to increase personal empowerment and overall self-esteem (Rosenvinge & Westjordet, 2004). However, Pratt and Woolfenden (2002) in a systematic review assessing the effectiveness of ED preventive programs for children and adolescents, found a lack of evidence about potential harms resulting from providing information on weight management behaviours.

There is uncertainty about the potential negative effects of involving parents in ED preventive programs. O'Dea and Abraham (2000) engaged parents by encouraging students to seek positive statements about themselves from family and friends. This approach has been shown to be effective and safe in modifying unhealthy eating practices, body image, and favourable attitudes towards ED. In order to prevent harmful effects, O'Dea et al. (O'Dea & Abraham, 2000) recommend that future educational programs to improve body image and eating behaviours employ cooperative, interactive, and student-centred approaches to develop self-esteem, avoiding the direct type of instruction on diets and ED.

2.3.4 | Participant profiles

Preventive programs for ED can become more accepted and effective when participant profiles are considered; including aspects such as maturity, knowledge level, risk of developing an ED, as well as the motivation to participate in the intervention (Contreras Jordán et al., 2012). This may be due to the increased sensitivity and responsiveness concerning the perception of their own body, the normative changes of puberty, and the social pressure from friends and mass-media. Furthermore, in these pre-adolescent years (from the age of 10), the incidence of ED and dissatisfaction with body image does not reach the highest levels (Latiff et al., 2018). The facilitator profile is also relevant (Wilksch et al., 2006). Teachers have been suggested as facilitators because of their strategic and continuous relationship with children, ensuring continuity and programme sustainability (Berger et al., 2014). Physical education teachers in particular can provide direct and personalised counselling to students, incorporating physical exercise into programs as a protective aspect against body image problems in young people (Contreras Jordán et al., 2012). Teachers' training prior to the implementation of the programs improved their sense of self-efficacy and their abilities to identify early signs of ED among students, as well as the probability of influencing attitudes towards ED prevention (Anderson et al., 2017).

2.3.5 | Implementation aspects

Preventive programs are usually implemented into regular classes during school hours or as extended classes such as seminars; without observed differences in expected results (Berger et al., 2014). As regards the format of the sessions, some preventive programmes have chosen to include group discussions and critical evaluation of media messages, since the impact of the media and the peer group on the development of belief systems regarding ideas of beauty and proper weight are resistant to individual or small group interventions (Pratt & Woolfenden, 2002).

Family education on healthy eating and on the identification of signs of ED has been emphasised. Parents can also be a role model for body image and eating behaviour with the additional value of early identifying any signs of ED (Anderson et al., 2017). Some interventions have incorporated tasks to improve communication skills with family and peers, given the importance of these relationships in the development of ED (O'Dea & Abraham, 2000).

2.3.6 | Acceptability

The acceptability of ED preventive programs could be enhanced by linking contents to relevant and sensitive aspects of participant's interests and needs, addressed to developing critical thinking (González et al., 2015; Haines et al., 2008; Rosenvinge & Westjordet, 2004; Wilksch et al., 2006). In other words, interventions aimed at developing a critical view of the social stereotypes of beauty offered by the media, based in interactivity and constructivist methodologies, rather than traditional psychoeducational approaches, have been better accepted (González et al., 2015) and interventions focussed on the development of self-esteem and self-confidence were well valued (O'Dea & Abraham, 2000). The use of innovative methodologies, such as theatre-based programs, might contribute to acceptability. Theatre seems to improve the personal and social relevance of the contents in the

opinion of the participants and the internalisation of the intervention contents, providing opportunities to talk about their experiences in problematic situations related to food and eating (Haines et al., 2008).

3 | DISCUSSION

The main goal of this review was to assess the ethical, legal, organizational and social aspects involved in UPPED in children, pre-adolescents and adolescents in school settings. These aspects refer to an assessment that goes beyond the core dimensions of conventional HTA (effectiveness and safety), taking into account the individual, social and cultural aspects related to the intervention's implementation and their outcomes. Although there have been multiple calls for the explicit integration of ethical, legal and social issues in HTA and the possible consequences related to their use (Daniels & van der Wilt, 2016; Hoffmann, 2014) these aspects are often underestimated and not explicitly addressed in HTA (García-León, 2019). In particular, beyond improving the quality and relevance of health research, the inclusion of participants' views and perspectives contribute to intervention implementation, increasing accessibility and acceptability of health services, and, potentially, health outcomes (Serrano-Aguilar et al., 2009). Patients or participants can identify specific relevant needs, as well as emphasize variation in values and access to different types of services (Serrano-Aguilar et al., 2009). The assessment of participants' perspective, together with ethical, legal and organizational aspects, can complement the conventional evaluation to reduce overall uncertainty and improve policymakers' and stakeholders' decision making (EUnetHTA, 2016).

Regarding the goal of the present work, in the course of this review, evidence has been collected about ethical aspects involved in the interventions, mainly focussed in equity, gender perspective and the potential harms. Concerning organizational aspects, the main findings are related to the implementation of these interventions, as well as the participants' profile. Finally, the findings regarding participants' perspective are mainly related to the acceptability of the UPPED. Furthermore, no legal aspects were found in the literature review.

This SR suggests that despite the fact that UPPED can have an impact on ED due to their scope at the individual, group, social and community level; their effectiveness improves when focussed on population with one or more ED risk indicator (del Pino-Sedeño et al., 2021). This finding justifies prioritisation depending on epidemiological situation, participants needs, and/or resources availability (Littleton & Ollendick, 2003). Thus, when feasibly, it would be appropriate to implement UPPED with specific modules (small group workshops and individual counselling) for students with a higher risk of developing an ED (Littleton & Ollendick, 2003; Neumark-Sztainer, 1996).

Regarding the incorporation of a gender perspective, the results show that this not only contributes to promoting a more responsive, feasible and equitable view of the problem, but also of the solution; since the inclusion of girls and boys can provide benefits such as learning from the experiences and points of view of each one, and developing more tolerant attitudes towards others (O'Dea & Abraham, 2000). In this respect, educating boys about advertising can serve to make them more sensitive to the pressure suffered by girls, as well as preventing bullying based on their weight or appearance (Wilksch & Wade, 2009).

The role of facilitators is another prominent issue related to the effectiveness, efficiency and feasibility of implementing preventive programs. It has been found that including teachers as intervention facilitators due to their strategic and continuous relationship with children, contributes to the success of the implementation and sustainability of the program (Berger et al., 2014). However, teachers might not have sufficient competencies to adequately deal with ED prevention issues and difficulties could arise in counselling participants (Berger et al., 2008). For this reason, the training of teachers prior to the implementation of preventive programs is an essential prerequisite in order to increased their self-efficacy and their ability to identify early signs of ED, as well as their ability to influence their students' attitudes towards ED prevention. On the other hand, studies about the prevention of ED in the female population (Berger et al., 2008) showed that beyond advantages in implementation and follow-up, including cost-reductions, the lack of training for ED management might hinder expected outcomes. The PriMa program established a phone hotline to overcome this limitation, supervised by clinical psychologists, to support teachers, as well as parents and affected persons (Berger et al., 2008). The latter is a feature to consider when implementing a UPPED.

In addition, regarding participant's characteristics, categorizing participants according to their level of risk of developing an ED, and their interest or motivation in participating in these type of programs, also contributes to feasibility and effectiveness (Littleton & Ollendick, 2003). Other aspects related to the feasibility of preventive intervention are the format, content and other logistical aspects of the programs. It has been reported that the programs that can offer the best results are those with a multi-causal, systemic, and tiered perspective that

integrates personal, family, and social aspects (Anderson et al., 2017; González et al., 2015; Littleton & Ollendick, 2003; Neumark-Sztainer, 1996); such as programs emphasizing the influence aesthetic stereotypes reinforced by the Internet, social networks and other media, and content from more personal and family areas such as development during puberty, attitudes towards appearance, developing personal skills, self-esteem, stress management, and emotional regulation (O'Dea & Abraham, 2000).

The participation of families in these programs is recommended (O'Dea & Abraham, 2000). However, there are difficulties when involving parents that need to be taken into account. According to a study with a female population by Berger et al. (2008), most parents were unwilling to participate in prevention programs targeting girls at school, despite the fact that informative talks on ED were given by professionals especially for parents, teachers, and older students.

Regarding the format of the programs, most studies included in the present review are referred to the results achieved with face-to-face programs; however, recently developed ED preventive programs in web applications (online) are becoming more popular, especially among young adults (Loucas et al., 2014; Melioli et al., 2016). Therefore, it is necessary to establish the effectiveness of these online programs among children and adolescents (Jones et al., 2014; Webb et al., 2010). Although aspects such as the frequency and duration of the sessions were not decisive for the effectiveness of the interventions (Berger et al., 2014), they were relevant from the sustainability perspective. Effectiveness increases with program duration, especially when programs are extended over an entire school year or even longer; and when the prevention programs begin at ages when the participants start to experience their first psychophysical changes (O'Dea & Abraham, 2000).

When the programs are relevant and sensitive to the interests and needs of the participants, the acceptability increases (González et al., 2015; Haines et al., 2008; Rosenvinge & Westjordet, 2004; Wilksch et al., 2006). Relevance or perceived value is an important aspect of any intervention, especially with young people. When children and teenagers enjoy the sessions, they are more likely to listen and actively participate. Some of the topics that students identify as important are: achieving more personal acceptance and extending their understanding of what is potentially misleading on the Internet and in the media. These aspects have been identified in interventions with good results (Wilksch et al., 2006).

Regarding the potential risk of preventive interventions in ED, there is a lack of consistent evidence to conclude that there is no harm associated with these interventions (Le et al., 2017; Pratt & Woolfenden, 2002). In fact, UPPED interventions slightly increase weight-related concerns and body dissatisfaction (del Pino-Sedeño et al., 2021). More studies with high methodological quality are required to evaluate the risk associated with these preventive interventions. Consequently, it may be of interest to propose preventive interventions focused on the personal empowerment and self-esteem of the participants, since these do not represent risks for the participants (O'Dea & Abraham, 2000; Rosenvinge & Westjordet, 2004). One last consideration on the overall process of HTA, also affecting UPPEDs, has to do with the fact that the assessment of ethical, legal, organizational and social issues associated with the use of healthcare interventions are usually addressed separately from each other to inform decision making. A drawback of this approach, pointed out by the promoters of the ongoing Validate study (https://validatehta.eu/) is that the selection of aspects addressed in the HTA process and when and how they are treated, depends on the value frameworks of the different stakeholders (e.g. patients, healthcare providers, payers, policy makers) involved in the assessment process. This drawback calls for the need of a more integrative and inclusive HTA approach where the safety, clinical, and cost-effectiveness of health interventions are early and participative integrated with their wider ethical, legal and social implications with stakeholders being involved in a more meaningful way during the whole HTA process.

Future research needs on UPPED should incorporate comparative evaluations between the components of the program to identify the elements that can offer better results, from a health and economic perspective. Some of these elements are related to the acquisition of knowledge, attitudes and body exercises (yoga or other relaxation techniques) (Scime et al., 2006). Another research need derived from the study is to evaluate whether programs focused on a particular population or universal programs work better and whether there is any ethical, legal, organizational and social impact.

Some of the limitations of the present review are explained by the heterogeneity of the design of the included studies. Many studies could not be included because they focused on describing the results of preventive programs targeting specific populations, mainly women. Although ED is more prevalent in girls, it has been reported that boys may be part of the problem that triggers these disorders and of the solution, emphasizing their participation. In addition, the lack of homogeneity in methodological aspects such as diversity of samples and the different criteria used to evaluate and report qualitative and quantitative results achieved by preventive programs of ED hinder the generalizability and

representativeness of the results and conclusions of the study. Finally, the exclusive reliance on Spanish or English-language studies may not represent all the evidence and could introduce a language bias.

4 | CONCLUSION

The multicausal and complex scope of eating disorders requires, for their prevention, multicomponent interventions that address the different areas in which these disorders develop, that is, the personal, family, social and community areas. A universal, systemic, gender perspective and personal skills development approach could offer greater feasibility, equity and acceptability, from the perspective provided by the analysis. Teachers with prior training in ED have the right profile to be facilitators of these programs. Other aspects such as safety, efficacy, and cost-effectiveness require robust evaluations to establish the impact of such interventions.

ACKNOWLEDGEMENTS

The authors would like to thank Leticia Rodríguez for her guidance in developing the search strategy and Carlos González. The funding institutions had no role in designing and conducting the study; data collection, management, analysis and interpretation; draughting, reviewing and approving the manuscript; or the decision to submit it for publication. This work was financed by the Spanish Ministry of Health in the framework of the activities developed by the Spanish Network of Agencies for Health Technology Assessment for the National Health Service.

CONFLICT OF INTEREST

The authors have no conflict of interest with the subject matter or materials discussed in the manuscript.

DATA AVAILABILITY STATEMENT

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

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Torres-Castaño, A., Delgado-Rodríguez, J., del Pino-Sedeño, T., Estaña Malaret, D., de Pascual, A. M., Toledo-Chávarri, A., & Serrano-Aguilar, P. (2022). Universal programs to prevent eating disorders in children and adolescents: A scoping review of ethical, legal, organizational and social impacts. *European Eating Disorders Review*, *30*(6), 706–722. https://doi.org/10.1002/erv.2909