UNIVERSITÉ TOULOUSE III – PAUL SABATIER
FACULTÉS DE MÉDECINE

ANNÉE 2022 2022 TOU3 1632

THÈSE

POUR LE DIPLÔME D'ÉTAT DE DOCTEUR EN MÉDECINE

MÉDECINE SPÉCIALISÉE CLINIQUE

Présentée et soutenue publiquement

par

Aude FALALA

le 12 octobre 2022

PREVALENCE DU TROUBLE DU DEUIL PROLONGE CHEZ LES ENFANTS ET LES ADOLESCENTS : REVUE SYSTEMATIQUE DE LA LITTERATURE

Directeurs de thèse : Dr Alexis REVET et Dr Alice LANNES

JURY

Monsieur le Professeur Jean-Philippe RAYNAUD	Président
Monsieur le Docteur Alexis REVET	Assesseur
Monsieur le Docteur Grégoire BENVEGNU	Assesseur
Madame le Docteur Patricia TIMSIT	Assesseur
Madame le Docteur Alice LANNES	Suppléant

UNIVERSITÉ TOULOUSE III PAUL SABATIER

FACULTE DE SANTE
Département Médecine Maieutique et Paramédicaux
Tableau des personnels HU de médecine
Mars 2022

Professeurs Honoraires

Doyen Honoraire	M. CHAP Hugues
Doyen Honoraire	M. GUIRAUD-CHAUMEIL Bernard
Doyen Honoraire	M. LAZORTHES Yves
Doyen Honoraire	M. PUEL Pierre
Doyen Honoraire	M. ROUGE Daniel
Doyen Honoraire	M. VINEL Jean-Pierre
Professeur Honoraire	M. ABBAL Michel
Professeur Honoraire	M. ADER Jean-Louis
Professeur Honoraire	M. ADOUE Daniel
Professeur Honoraire	M. ARBUS Louis
Professeur Honoraire	M. ARLET Philippe
Professeur Honoraire	M. ARLET-SUAU Elisabeth
Professeur Honoraire	M. ARNE Jean-Louis
Professeur Honoraire	M. BARRET André
Professeur Honoraire	M. BARTHE Philippe
Professeur Honoraire	M. BAYARD Francis
Professeur Honoraire	M. BLANCHER Antoine
Professeur Honoraire	M. BOCCALON Henri
Professeur Honoraire	M. BONAFE Jean-Louis
Professeur Honoraire	M. BONEU Bernard
Professeur Honoraire	M. BONNEVIALLE Paul
Professeur Honoraire	M. BOUNHOURE Jean-Paul
Professeur Honoraire	M. BOUTAULT Franck
Professeur Honoraire Associé	M. BROS Bernard
Professeur Honoraire	M. BUGAT Roland
Professeur Honoraire	M. CAHUZAC Jean-Philippe
Professeur Honoraire	M. CARATERO Claude
Professeur Honoraire	M. CARLES Pierre
Professeur Honoraire	M. CARON Philippe
Professeur Honoraire	M. CARRIERE Jean-Paul
Professeur Honoraire	M. CARTON Michel
Professeur Honoraire	M. CATHALA Bernard
Professeur Honoraire	M. CHABANON Gérard
Professeur Honoraire	M. CHAMONTIN Bernard
Professeur Honoraire	M. CHAP Hugues
Professeur Honoraire	M. CHAVOIN Jean-Pierre
Professeur Honoraire	M. CLANET Michel
Professeur Honoraire	M. CONTE Jean
Professeur Honoraire	M. COSTAGLIOLA Michel
Professeur Honoraire	M. COTONAT Jean
Professeur Honoraire	M. DABERNAT Henri
Professeur Honoraire	M. DAHAN Marcel
Professeur Honoraire	M. DALOUS Antoine
Professeur Honoraire	M. DALY-SCHVEITZER Nicolas
Professeur Honoraire	M. DAVID Jean-Frédéric
Professeur Honoraire	M. DELSOL Georges
Professeur Honoraire	Mme DELISLE Marie-Bernadette
Professeur Honoraire	Mme DIDIER Jacqueline
Professeur Honoraire	M. DUCOS Jean
Professeur Honoraire	M. DUFFAUT Michel
Professeur Honoraire	M. DUPRE M.
Professeur Honoraire	M. DURAND Dominique
Professeur Honoraire associé	M. DUTAU Guy
Professeur Honoraire	M. ESCHAPASSE Henri
Professeur Honoraire	M. ESCOURROU Jean
Professeur Honoraire	M. ESQUERRE J.P.
Professeur Honoraire	M. FABIE Michel
Professeur Honoraire	M. FABRE Jean
Professeur Honoraire	M. FOURNIAL Gérard
Professeur Honoraire	M. FOURNIE Bernard
Professeur Honoraire	M. FOURTANIER Gilles
Professeur Honoraire	M. FRAYSSE Bernard
Professeur Honoraire	M. FREXINOS Jacques
Professeur Honoraire	Mme GENESTAL Michèle
Professeur Honoraire	M. GERAUD Gilles
Professeur Honoraire	M. GHISOLFI Jacques
Professeur Honoraire	M. GLOCK Yves
Professeur Honoraire	M. GOUZI Jean-Louis
Professeur Honoraire	M. GRAND Alain
Professeur Honoraire	M. GUIRAUD CHAUMEIL Bernard
Professeur Honoraire	M. HOFF Jean
Professeur Honoraire	M. JOFFRE Francis
Professeur Honoraire	M. LAGARRIGUE Jacques
Professeur Honoraire	M. LANG Thierry
Professeur Honoraire	Mme LARENG Marie-Blanche
Professeur Honoraire	M. LAURENT Guy
Professeur Honoraire	M. LAZORTHES Franck
Professeur Honoraire	M. LAZORTHES Yves
Professeur Honoraire	M. LEOPHONTE Paul
Professeur Honoraire	M. MAGNAVAL Jean-François
Professeur Honoraire	M. MALECAZE François
Professeur Honoraire	M. MANELFE Claude
Professeur Honoraire	M. MANSAT Michel
Professeur Honoraire	M. MARCHOU Bruno
Professeur Honoraire	M. MASSIP Patrice
Professeur Honoraire	Mme MARTY Nicole
Professeur Honoraire	M. MAZIERES Bernard
Professeur Honoraire	M. MONROZIES Xavier
Professeur Honoraire	M. MOSCOVICI Jacques
Professeur Honoraire	M. MURAT
Professeur Honoraire associé	M. NICODEME Robert
Professeur Honoraire	M. OLIVES Jean-Pierre
Professeur Honoraire	M. PARINAUD Jean
Professeur Honoraire	M. PASCAL Jean-Pierre
Professeur Honoraire	M. PERRET Bertrand
Professeur Honoraire	M. PESSEY Jean-Jacques
Professeur Honoraire	M. PLANTE Pierre
Professeur Honoraire	M. PONTONNIER Georges
Professeur Honoraire	M. POURRAT Jacques
Professeur Honoraire	M. PRADERE Bernard
Professeur Honoraire	M. PRIS Jacques
Professeur Honoraire	Mme PUEL Jacqueline
Professeur Honoraire	M. PUEL Pierre
Professeur Honoraire	M. PUJOL Michel
Professeur Honoraire	M. QUERLEU Denis
Professeur Honoraire	M. RAILHAC Jean-Jacques
Professeur Honoraire	M. REGIS Henri
Professeur Honoraire	M. REGNIER Claude
Professeur Honoraire	M. REME Jean-Michel
Professeur Honoraire	M. RISCHMANN Pascal
Professeur Honoraire	M. RIVIERE Daniel
Professeur Honoraire	M. ROCHE Henri
Professeur Honoraire	M. ROCHICCIOLI Pierre
Professeur Honoraire	M. ROLLAND Michel
Professeur Honoraire	M. ROQUES-LATRILLE Christian
Professeur Honoraire	M. RUMEAU Jean-Louis
Professeur Honoraire	M. SALVADOR Michel
Professeur Honoraire	M. SALVAYRE Robert
Professeur Honoraire	M. SARRAMON Jean-Pierre
Professeur Honoraire	M. SERRE Guy
Professeur Honoraire	M. SIMON Jacques
Professeur Honoraire	M. SUC Jean-Michel
Professeur Honoraire	M. THOUVENOT Jean-Paul
Professeur Honoraire	M. TREMOULET Michel
Professeur Honoraire	M. VALDIGUIE Pierre
Professeur Honoraire	M. VAYSSE Philippe
Professeur Honoraire	M. VINEL Jean-Pierre
Professeur Honoraire	M. VIRENQUE Christian
Professeur Honoraire	M. VOIGT Jean-Jacques

Professeurs Emérites

Professeur ARLET Philippe
Professeur BOUTAULT Franck
Professeur CARON Philippe
Professeur CHAMONTIN Bernard
Professeur CHAP Hugues
Professeur GRAND Alain
Professeur LAGARRIGUE Jacques
Professeur LAURENT Guy
Professeur LAZORTHES Yves
Professeur MAGNAVAL Jean-François
Professeur MARCHOU Bruno
Professeur PERRET Bertrand
Professeur RISCHMANN Pascal
Professeur RIVIERE Daniel
Professeur ROUGE Daniel

FACULTE DE SANTE
Département Médecine Maieutique et Paramédicaux

P.U. - P.H.
Classe Exceptionnelle et 1ère classe

M. ACAR Philippe	Pédiatrie
M. ACCADBLED Franck (C.E)	Chirurgie Infantile
M. ALRIC Laurent (C.E)	Médecine Interne
M. AMAR Jacques	Thérapeutique
Mme ANDRIEU Sandrine	Epidémiologie, Santé publique
M. ARBUS Christophe	Psychiatrie
M. ARNAL Jean-François (C.E)	Physiologie
M. ATTAL Michel (C.E)	Hématologie
M. AVET-LOISEAU Hervé	Hématologie, transfusion
M. BERRY Antoine	Parasitologie
Mme BERRY Isabelle (C.E)	Biophysique
M. BIRMES Philippe	Psychiatrie
M. BONNEVILLE Fabrice	Radiologie
M. BOSSAVY Jean-Pierre (C.E)	Chirurgie Vasculaire
M. BRASSAT David	Neurologie
M. BROUCHET Laurent	Chirurgie thoracique et cardio-vascul
M. BROUSSET Pierre (C.E)	Anatomie pathologique
M. BUJAN Louis (C. E)	Urologie-Andrologie
Mme BURA-RIVIERE Alessandra (C.E)	Médecine Vasculaire
M. BUREAU Christophe	Hépato-Gastro-Entérologie
M. BUSCAIL Louis (C.E)	Hépato-Gastro-Entérologie
M. CALVAS Patrick (C.E)	Génétique
M. CANTAGREL Alain (C.E)	Rhumatologie
M. CARRERE Nicolas	Chirurgie Générale
M. CARRIE Didier (C.E)	Cardiologie
M. CHAIX Yves	Pédiatrie
Mme CHARPENTIER Sandrine	Médecine d'urgence
M. CHAUFOUR Xavier	Chirurgie Vasculaire
M. CHAUVEAU Dominique	Néphrologie
M. CHAYNES Patrick	Anatomie
M. CHIRON Philippe (C.E)	Chir. Orthopédique et Traumatologie
M. CHOLLET François (C.E)	Neurologie
M. CONSTANTIN Arnaud	Rhumatologie
M. COURBON Frédéric	Biophysique
Mme COURTADE SAIDI Monique (C.E)	Histologie Embryologie
M. DAMBRIN Camille	Chir. Thoracique et Cardiovasculaire
M. DE BOISSEZON Xavier	Médecine Physique et Réadapt Fonct.
M. DEGUINE Olivier (C.E)	Oto-rhino-laryngologie
M. DELABESSE Eric	Hématologie
M. DELOBEL Pierre	Maladies Infectieuses
M. DELORD Jean-Pierre (C.E)	Cancérologie
M. DIDIER Alain (C.E)	Pneumologie
M. DUCOMMUN Bernard	Cancérologie
Mme DULY-BOUHANICK Béatrice (C.E)	Thérapeutique
M. ELBAZ Meyer	Cardiologie
M. FERRIERES Jean (C.E)	Epidémiologie, Santé Publique
M. FOURCADE Olivier	Anesthésiologie
M. FOURNIÉ Pierre	Ophtalmologie
M. GALINIER Michel (C.E)	Cardiologie
M. GAME Xavier	Urologie
Mme GARDETTE Virginie	Epidémiologie, Santé publique
M. GEERAERTS Thomas	Anesthésiologie et réanimation
Mme GOMEZ-BROUCHET Anne-Muriel	Anatomie Pathologique
M. GOURDY Pierre (C.E)	Endocrinologie
M. GROLLEAU RAOUX Jean-Louis (C.E)	Chirurgie plastique
Mme GUIMBAUD Rosine	Cancérologie
Mme HANAIRE Hélène (C.E)	Endocrinologie
M. HUYGHE Eric	Urologie
M. IZOPET Jacques (C.E)	Bactériologie-Virologie
M. KAMAR Nassim (C.E)	Néphrologie

P.U. Médecine générale
M. OUSTRIC Stéphane (C.E)

Mme LAMANT Laurence (C.E)	Anatomie Pathologique
M. LANGIN Dominique (C.E)	Nutrition
Mme LAPRIE Anne	Radiothérapie
M. LARRUE Vincent	Neurologie
M. LAUQUE Dominique (C.E)	Médecine d'Urgence
M. LAUWERS Frédéric	Chirurgie maxillo-faciale
M. LEOBON Bertrand	Chirurgie Thoracique et Cardio-vasculaire
M. LEVADE Thierry (C.E)	Biochimie
M. LIBLAU Roland (C.E)	Immunologie
M. MALAVAUD Bernard	Urologie
M. MANSAT Pierre	Chirurgie Orthopédique
M. MARQUE Philippe (C.E)	Médecine Physique et Réadaptation
M. MAS Emmanuel	Pédiatrie
M. MAURY Jean-Philippe (C.E)	Cardiologie
Mme MAZEREEUW Juliette	Dermatologie
M. MAZIERES Julien (C.E)	Pneumologie
M. MINVILLE Vincent	Anesthésiologie Réanimation
M. MOLINIER Laurent (C.E)	Epidémiologie, Santé Publique
M. MONTASTRUC Jean-Louis (C.E)	Pharmacologie
Mme MOYAL Elisabeth (C.E)	Cancérologie
M. MUSCARI Fabrice	Chirurgie Digestive
Mme NOURHASHEMI Fatemeh (C.E)	Gériatrie
M. OLIVOT Jean-Marc	Neurologie
M. OSWALD Eric (C.E)	Bactériologie-Virologie
M. PARIENTE Jérémie	Neurologie
M. PAUL Carle (C.E)	Dermatologie
M. PAYOUX Pierre (C.E)	Biophysique
M. PAYRASTRE Bernard (C.E)	Hématologie
M. PERON Jean-Marie (C.E)	Hépato-Gastro-Entérologie
M. RASCOL Olivier (C.E)	Pharmacologie
Mme RAUZY Odile	Médecine Interne
M. RAYNAUD Jean-Philippe (C.E)	Psychiatrie Infantile
M. RECHER Christian(C.E)	Hématologie
M. RITZ Patrick (C.E)	Nutrition
M. ROLLAND Yves (C.E)	Gériatrie
M. RONCALLI Jérôme	Cardiologie
M. ROUGE Daniel (C.E)	Médecine Légale
M. ROUSSEAU Hervé (C.E)	Radiologie
M. ROUX Franck-Emmanuel	Neurochirurgie
M. SAILLER Laurent (C.E)	Médecine Interne
M. SALES DE GAUZY Jérôme (C.E)	Chirurgie Infantile
M. SALLES Jean-Pierre (C.E)	Pédiatrie
M. SANS Nicolas	Radiologie
M. SCHMITT Laurent (C.E)	Psychiatrie
Mme SELVES Janick (C.E)	Anatomie et cytologie pathologiques
M. SENARD Jean-Michel (C.E)	Pharmacologie
M. SERRANO Elie (C.E)	Oto-rhino-laryngologie
M. SIZUN Jacques (C.E)	Pédiatrie
M. SOL Jean-Christophe	Neurochirurgie
Mme SOTO-MARTIN Maria-Eugénia	Gériatrie et biologie du vieillissement
M. SOULAT Jean-Marc	Médecine du Travail
M. SOULIE Michel (C.E)	Urologie
M. SUC Bertrand	Chirurgie Digestive
Mme TAUBER Marie-Thérèse (C.E)	Pédiatrie
M. TELMON Norbert (C.E)	Médecine Légale
Mme TREMOLLIERES Florence	Biologie du développement
Mme URO-COSTE Emmanuelle (C.E)	Anatomie Pathologique
M. VAYSSIERE Christophe (C.E)	Gynécologie Obstétrique
M. VELLAS Bruno (C.E)	Gériatrie
M. VERGEZ Sébastien	Oto-rhino-laryngologie

FACULTE DE SANTE
Département Médecine Maieutique et Paramédicaux

P.U. - P.H.
2ème classe

M. ABBO Olivier	Chirurgie infantile
M. AUSSEIL Jérôme	Biochimie et biologie moléculaire
Mme BONGARD Vanina	Epidémiologie, Santé publique
M. BONNEVIALLE Nicolas	Chirurgie orthopédique et traumatologique
M. BOUNES Vincent	Médecine d'urgence
Mme BOURNET Barbara	Gastro-entérologie
Mme CASPER Charlotte	Pédiatrie
M. CAVAIGNAC Etienne	Chirurgie orthopédique et traumatologie
M. CHAPUT Benoit	Chirurgie plastique
M. COGNARD Christophe	Radiologie
Mme CORRE Jill	Hématologie
Mme DALENC Florence	Cancérologie
M. DE BONNECAZE Guillaume	Anatomie
M. DECRAMER Stéphane	Pédiatrie
M. EDOUARD Thomas	Pédiatrie
M. FAGUER Stanislas	Néphrologie
Mme FARUCH BILFELD Marie	Radiologie et imagerie médicale
M. FRANCHITTO Nicolas	Addictologie
M. GARRIDO-STÖWHAS Ignacio	Chirurgie Plastique
M. GUIBERT Nicolas	Pneumologie
M. GUILLEMINAULT Laurent	Pneumologie
M. HERIN Fabrice	Médecine et santé au travail
M. LAIREZ Olivier	Biophysique et médecine nucléaire
M. LAROCHE Michel	Rhumatologie
Mme LAURENT Camille	Anatomie Pathologique
M. LE CAIGNEC Cédric	Génétique
M. LEANDRI Roger	Biologie du dével. et de la reproduction
M. LOPEZ Raphael	Anatomie
M. MARCHEIX Bertrand	Chirurgie thoracique et cardiovasculaire
M. MARTIN-BLONDEL Guillaume	Maladies infectieuses, maladies tropicales
Mme MARTINEZ Alejandra	Gynécologie
M. MARX Mathieu	Oto-rhino-laryngologie
M. MEYER Nicolas	Dermatologie
M. PAGES Jean-Christophe	Biologie cellulaire
Mme PASQUET Marlène	Pédiatrie
M. PORTIER Guillaume	Chirurgie Digestive
M. PUGNET Grégory	Médecine interne
M. REINA Nicolas	Chirurgie orthopédique et traumatologique
M. RENAUDINEAU Yves	Immunologie
Mme RUYSSEN-WITRAND Adeline	Rhumatologie
Mme SAVAGNER Frédérique	Biochimie et biologie moléculaire
M. SAVALL Frédéric	Médecine légale
M. SILVA SIFONTES Stein	Réanimation
M. SOLER Vincent	Ophtalmologie
Mme SOMMET Agnès	Pharmacologie
M. TACK Ivan	Physiologie
Mme VAYSSE Charlotte	Cancérologie
Mme VEZZOSI Delphine	Endocrinologie
M. YRONDI Antoine	Psychiatrie
M. YSEBAERT Loic	Hématologie

P.U. Médecine générale
M. MESTHÉ Pierre
Mme ROUGE-BUGAT Marie-Eve

Professeurs Associés

Professeur Associé de Médecine Générale
M. ABITTEBOUL Yves
Mme BOURGEOIS Odile
M. BOYER Pierre
M. CHICOULAA Bruno
Mme IRI-DELAHAYE Motoko
M. PIPONNIER David
M. POUTRAIN Jean-Christophe
M. STILLMUNKES André

Professeur Associé de Bactériologie-Hygiène
Mme MALAVAUD Sandra

FACULTE DE SANTE
Département Médecine Maieutique et Paramédicaux

MCU - PH

Mme ABRAVANEL Florence	Bactériologie Virologie Hygiène
M. APOIL Pol Andre	Immunologie
Mme ARNAUD Catherine	Epidémiologie
Mme AUSSEIL-TRUDEL Stéphanie	Biochimie
Mme BASSET Céline	Cytologie et histologie
Mme BELLIERES-FABRE Julie	Néphrologie
Mme BERTOLI Sarah	Hématologie, transfusion
M. BIETH Eric	Génétique
Mme BREHIN Camille	Pneumologie
M. BUSCAIL Etienne	Chirurgie viscérale et digestive
Mme CAMARE Caroline	Biochimie et biologie moléculaire
M. CAMBUS Jean-Pierre	Hématologie
Mme CANTERO Anne-Valérie	Biochimie
Mme CARFAGNA Luana	Pédiatrie
Mme CASPAR BAUGUIL Sylvie	Nutrition
Mme CASSAGNE Myriam	Ophtalmologie
Mme CASSAING Sophie	Parasitologie
Mme CASSOL Emmanuelle	Biophysique
Mme CHANTALAT Elodie	Anatomie
M. CHASSAING Nicolas	Génétique
M. CLAVEL Cyril	Biologie Cellulaire
Mme COLOMBAT Magali	Anatomie et cytologie pathologiques
M. CONGY Nicolas	Immunologie
Mme COURBON Christine	Pharmacologie
M. CUROT Jonathan	Neurologie
Mme DAMASE Christine	Pharmacologie
Mme DE GLISEZENSKY Isabelle	Physiologie
M. DEDOUIT Fabrice	Médecine Légale
M. DEGBOE Yannick	Rhumatologie
M. DELMAS Clément	Cardiologie
M. DELPLA Pierre-André	Médecine Légale
M. DESPAS Fabien	Pharmacologie
M. DUBOIS Damien	Bactériologie Virologie Hygiène
Mme ESQUIROL Yolande	Médecine du travail
Mme EVRARD Solène	Histologie, embryologie et cytologie
Mme FILLAUX Judith	Parasitologie
Mme FLOCH Pauline	Bactériologie-Virologie
Mme GALINIER Anne	Nutrition
Mme GALLINI Adeline	Epidémiologie
M. GANTET Pierre	Biophysique
M. GASQ David	Physiologie
M. GATIMEL Nicolas	Médecine de la reproduction
Mme GENNERO Isabelle	Biochimie
Mme GENOUX Annelise	Biochimie et biologie moléculaire
Mme GRARE Marion	Bactériologie Virologie Hygiène
M. GUERBY Paul	Gynécologie-Obstétrique
Mme GUILBEAU-FRUGIER Céline	Anatomie Pathologique
Mme GUYONNET Sophie	Nutrition
M. HAMDI Safouane	Biochimie
Mme HITZEL Anne	Biophysique
Mme INGUENEAU Cécile	Biochimie
M. IRIART Xavier	Parasitologie et mycologie
Mme JONCA Nathalie	Biologie cellulaire
M. KIRZIN Sylvain	Chirurgie générale
Mme LAPEYRE-MESTRE Maryse	Pharmacologie
M. LEPAGE Benoit	Biostatistiques et Informatique médicale
M. LHERMUSIER Thibault	Cardiologie
M. LHOMME Sébastien	Bactériologie-virologie
Mme MASSIP Clémence	Bactériologie-virologie
Mme MAUPAS SCHWALM Françoise	Biochimie
Mme MONTASTIER Emilie	Nutrition
M. MONTASTRUC François	Pharmacologie
Mme MOREAU Jessika	Biologie du dév. Et de la reproduction
Mme MOREAU Marion	Physiologie
M. MOULIS Guillaume	Médecine interne
Mme NASR Nathalie	Neurologie
Mme NOGUEIRA M.L.	Biologie Cellulaire
Mme PERROT Aurore	Hématologie
M. PILLARD Fabien	Physiologie
Mme PLAISANCIE Julie	Génétique
Mme PUISSANT Bénédicte	Immunologie
Mme QUELVEN Isabelle	Biophysique et médecine nucléaire
Mme RAYMOND Stéphanie	Bactériologie Virologie Hygiène
M. REVET Alexis	Pédo-psychiatrie
M. RIMAILHO Jacques	Anatomie et Chirurgie Générale
Mme SABOURDY Frédérique	Biochimie
Mme SAUNE Karine	Bactériologie Virologie
Mme SIEGFRIED Aurore	Anatomie et cytologie pathologiques
M. TAFANI Jean-André	Biophysique
M. TREINER Emmanuel	Immunologie
Mme VALLET Marion	Physiologie
M. VERGEZ François	Hématologie
Mme VIJA Lavinia	Biophysique et médecine nucléaire

M.C.U. Médecine générale

M. BISMUTH Michel
M. BRILLAC Thierry
Mme DUPOUY Julie
M. ESCOURROU Emile

Maîtres de Conférence Associés

M.C.A. Médecine Générale

M. BIREBENT Jordan
Mme BOUSSIER Nathalie
Mme FREYENS Anne
Mme LATROUS Leila
Mme PUECH Marielle

REMERCIEMENTS

Remerciements professionnels

Monsieur le Professeur Jean-Philippe RAYNAUD

Merci de me faire l'honneur de présider ce jury et de juger ce travail.

Je vous remercie pour la qualité de vos enseignements, votre disponibilité et vos conseils durant toute ma formation. Votre implication auprès des internes et votre passion pour notre discipline vous honore.

Monsieur le Professeur Eric BUI

Merci d'avoir accepté de contribuer à ce travail de thèse. Votre expertise dans le domaine du psycho-traumatisme et votre rigueur m'ont beaucoup apportée. Je vous remercie également de votre réactivé durant ce travail.

Veuillez recevoir le témoignage de mon profond respect.

Monsieur le Docteur Alexis REVET

Je te suis très reconnaissante d'avoir accepté la direction de ce travail, de m'avoir conseillée, guidée et rassurée tout au long de mon parcours. Ton encadrement constant, réactif, rigoureux et bienveillant m'a permis de réaliser ce travail exigeant que je ne pensais pas toujours possible. Ton expertise et ta passion pour la recherche m'ont grandement apporté. J'ai beaucoup appris à tes côtés.

Accepte toute ma reconnaissance et mon profond respect.

Madame le Docteur Alice LANNES

Merci énormément d'avoir dirigé ce travail. Je ne saurai te dire à quel point ton accompagnement m'a aidé, guidé et rassuré durant cette période. Merci pour ton expertise, tes conseils, ta réactivité, ta patience et ta gentillesse. C'est un plaisir et un honneur d'avoir pu partager ce travail avec toi.

Pour tout cela, un très grand merci !

Monsieur le Docteur Grégoire BENVEGNU

Merci beaucoup d'avoir accepté de siéger à ce jury.

Merci de m'avoir soutenue au cours de mon internat, que ce soit au sujet de la thèse ou sur mon parcours. Tu as su être à l'écoute et me conseiller en étant sincère et respectueux de mes idées. Je garde un très bon souvenir de mon stage à l'Hôpital des Enfants où ton encadrement a été constant, sécurisant et bienveillant.

Madame le Docteur Patricia TIMSIT

Merci beaucoup d'avoir accepté de siéger à ce jury.

Merci d'avoir accepté de lire et juger mon travail de thèse ! Il était important pour moi de pouvoir avoir votre regard peut-être plus psychanalytique, de spécialiste de la perte et donc du deuil, chez l'enfant. J'ai beaucoup apprécié assister à vos cours sur les troubles psychosomatiques et lors de la formation sur le deuil. J'ai toujours été admirative de votre approche psychothérapeutique très humaine et compassionnelle. Cela a toujours été un plaisir de discuter avec vous lors de situation clinique commune à l'Hôpital des Enfants. Je vous témoigne tout mon respect.

<u>Je remercie tous les professionnel(le)s avec qui j'ai pu travailler, partager et réfléchir, tout au long de mon parcours d'interne.</u>

Je remercie l'équipe médicale des urgences psychiatriques adultes : Stéphanie, Arianne, Catherine et Manu, quel semestre ! Merci de m'avoir tant appris (surtout sur les troubles de la personnalité !) et si bien encadrée.

Je remercie l'équipe des 4 merveilleuses infirmières du dispositif 15-25 ans à Montauban et Gwendy.

Je remercie l'équipe de la liaison de l'Hôpital des Enfants : l'équipe des médecins, Julie, Grégoire, Jeanne et Mr Vignes, mais aussi l'équipe infirmière Sandrine et Rémi et enfin Sarita, notre super secrétaire et Marie, notre super assistante sociale ! Encore un beau semestre, extrêmement riche en émotion, en apprentissage, en situations cliniques fortes partagées avec vous !

Je remercie l'équipe du CMPP de Cugnaux que je vais bientôt retrouver pour de nouvelles aventures. Merci pour votre gentillesse, votre humanité, votre humour et votre énergie. Amalia, merci pour ton encadrement et tes conseils, que de bons moments passés avec toi !

Je remercie l'équipe du Fil bien évidemment ! J'ai adoré ces moments passés avec vous, merci pour votre gentillesse, votre humour (toujours) mais surtout votre regard clinique sur la périnatalité, qui m'aura aidé à confirmer mon désir de me former dans ce domaine ! Mention spéciale à Bardet et à nos visites à domicile.

Je remercie les deux équipes des PMI du Centre et de Soupetard pour m'avoir si bien accueilli, fait découvrir vos métiers et l'univers de la périnatalité différemment ! Ce stage a été très riche cliniquement et humainement, alors merci pour votre confiance !

Je remercie Julie et Frédéric pour m'avoir si bien accueillie et intégrée durant les groupes d'entraînement aux habiletés sociales avec mon acolyte Amélie !

Julie, merci pour ce stage enrichissant, toujours à l'écoute et prête à discuter de longs moments de la clinique des jeunes que tu suis. Merci à l'équipe du LAPS également !

Enfin je remercie chaleureusement l'équipe du CMP de Purpan ! Vous êtes une équipe formidable, si vivante et chaleureuse ! Merci Geneviève pour ton accueil et ton encadrement, toujours à l'écoute et bienveillante.

Je remercie également ma petite équipe de la maternité Joseph Ducuing, Emmanuelle, Marie Emilie et Marie, merci pour ce semestre, quel univers passionnant que celui de la périnatalité, surtout à vos côtés ! Marie Emilie, merci pour nos grands moments de discussion et de fous rires.

Remerciements personnels

A mes co-internes et amis avec qui j'ai partagé mes semestres d'internat : Adélaïde, Ali, Johann, Amélie. Heureusement que vous étiez là !

A mes autres co-internes et amis : Boris, Benjamin, merci pour nos échanges toujours si agréables, merci pour votre gentillesse.

A mes amies toulousaines :

Adélaïde (tu mérites bien d'être citée deux fois !), nous nous sommes rencontrées aux urgences et l'on ne s'est jamais quittées ! Merci d'être l'amie fidèle que tu es !

Audrey, ces discussions interminables sur les différents parkings de l'hôpital que nous avons pu avoir, ayant tant de mal à nous quitter ! Merci d'être là pour moi également ! Je suis heureuse de faire partie de ta vie et d'avoir pu tant partager avec toi !

Cécile, merci pour ces moments agréables passés ensemble et de la confiance que tu me témoignes en tant qu'amie. J'espère vite te revoir en Italie ou à Toulouse !

Amélie (toi aussi tu seras citée deux fois !), tous ces mercredis après-midi où nous avons pu apprendre à nous connaître, partager de bons moments lors des jeux de rôles devant les jeunes. D'abord ta « Marraine » d'internat puis ton amie, je te remercie pour ton soutien mais également de m'avoir proposé de m'aider pour ma soutenance en immortalisant ce moment de tes photos.

A toutes, merci de m'avoir permis de retrouver un noyau d'amies fidèles si loin de ma Normandie natale.

A mes amies d'enfance qui seront toujours à mes côtés :

Chloé, merci d'avoir relu mon article, de l'avoir corrigé et commenté avec pertinence et bienveillance. Merci d'avoir toujours été présente dans ma vie.

Jill, merci d'avoir toujours été là, encore à présent pour ma thèse.

Charlotte, merci d'être là pour partager ce moment important de ma vie de médecin. J'ai tant de souvenirs de nos débuts de P1 jusqu'à aujourd'hui. Je ne l'oublierais pas.

A Héloïse et Cécile avec qui j'ai partagé mes années d'externat à Rouen. Merci pour votre amitié !

A tous mes ami(e)s de toujours dont l'amitié m'ont permis de grandir et d'être qui je suis aujourd'hui.

A ma famille :

A mes deux parents

Maman, merci d'avoir été cette femme brillante, dynamique, ouverte aux autres cultures, désirant sans cesse partager avec les autres.

Papa, merci pour cette sensibilité à la musique et aux émotions que tu m'as transmise.

Merci de m'avoir toujours soutenue dans mes choix, de m'avoir fait confiance et valorisée à chaque instant. Vous m'avez transmis votre force, votre passion, mais aussi votre douceur et votre empathie. Merci aussi pour cette richesse culturelle familiale qui est la nôtre, sans elle, je ne serai pas la même.

A ma sœur

Clara, merci d'avoir été là pour me donner des conseils au tout début de ma thèse. Tu as toujours fait preuve d'une écoute si bienveillante. Merci d'avoir été cette grande sœur brillante et inspirante pour moi. Je regrette seulement que tu ne sois pas là en ce jour si spécial.

A mes grands parents

Mamie, on dit souvent que je te ressemble alors merci de m'avoir transmis ta force de caractère, ton assurance et ta bienveillance.

Papy, merci de m'avoir toujours témoigné ton amour et ta fierté.

Merci à tous les deux d'avoir toujours été là pour moi, à me soutenir, à m'encourager. Je suis ravie que vous puissiez être présent à ma soutenance de thèse.

A mes beaux parents

Merci de m'avoir accueilli dans votre famille. Vous avez toujours été si bienveillant et aimant, merci d'être venu pour ce jour si spécial.

A Oscar

Je crois que les derniers remerciements te reviennent.

Tout d'abord, merci pour ton aide en informatique toujours si précieuse et d'avoir fait la première relecture de mon travail de thèse.

Merci d'avoir été là depuis le début, à me soutenir, m'épauler, me consoler dans les moments les plus difficiles. Merci pour cette vie et ces valeurs que nous partageons, tous les jours un peu plus. Merci pour ta bienveillance, ta patience, ton humour de toujours et bien sûr, ton amour.

Ce travail de thèse est présenté sous la forme d'un article original, en cours d'analyse dans le journal *Death Studies*. Nous présentons ci-après le manuscrit de l'article mis en forme selon les normes de soumission.

Le matériel supplémentaire associé à ce travail est quant à lui, présenté en Annexe 1.

TABLES DES MATIERES

Prevalence of prolonged grief disorder in bereaved children and adolescents: A systematic review

Aude Falala[1#], Alice Lannes[2,3#], Eric Bui[4,5], Alexis Revet[1,3*]

[1] Service Universitaire de Psychiatrie de l'Enfant et de l'Adolescent, CHU de Toulouse, Toulouse, France

[2] Unité d'Hospitalisation pour Adolescents, Pôle de Pédopsychiatrie, Hôpitaux de Lannemezan, Lannemezan, France

[3] CERPOP, Université de Toulouse, Inserm, UPS, Toulouse, France

[4] Department of Psychiatry, Massachusetts General Hospital, Boston, MA, United States

[5] University of Caen Normandy & Caen University Hospital Department of Psychiatry Caen, France

[#] Contributed equally

***Correspondence concerning this article should be addressed to:**

Dr. Alexis Revet. Service Universitaire de Psychiatrie de l'Enfant et de l'Adolescent, CHU de Toulouse, Hôpital Purpan, Place du Dr Baylac, TSA 40031, 31059 Toulouse cedex 9, France.

E-mail: revet.a@chu-toulouse.fr

Abstract: 235

Text words: 4,051

Tables: 3

Figures: 1

ABSTRACT

Purpose: Prolonged Grief Disorder (PGD) is a condition recently introduced in international classifications of mental disorders. Although PGD is associated with significant distress and impairment that may have developmental consequences, to date, little is known about its prevalence and associated factors in children and adolescents. The present systematic review registered in PROSPERO (CRD42021236026) aims to: (i) review existing data on the prevalence of PGD in bereaved children and adolescents; (ii) identify factors associated with PGD in this population.

Methods: Six electronic databases, grey literature and a journal hand-search identified 1,716 articles with no backward limit to September 2021. Epidemiological studies were included if they reported the prevalence of PGD in bereaved children and adolescents. Study characteristics, diagnostic and assessment tools, population, loss-related characteristics and prevalence of PGD were reviewed.

Results: Five studies met our inclusion criteria. The reported prevalences of PGD ranged from 10.4% to 32%. Female gender, cognitive avoidance, chronic stressors such as economic hardship, exposure to trauma or other losses appear to be associated with more severe symptoms or even a higher risk of PGD. Conversely, data suggest social support may be protective.

Conclusion: This first systematic review found a relatively high prevalence of PGD in bereaved children and adolescents. While further large epidemiological studies are needed, this review highlights the importance of evaluating PGD in current clinical practice and suggests further research into diagnostic and therapeutic approaches targeting this disorder is warranted.

Keywords: Prolonged grief disorder; prevalence; children; adolescent; systematic review.

1. Introduction

Bereavement, the loss of a loved one, is ubiquitous and triggers a grief response. Each individual will go through their grief a unique way. This singularity of grief trajectories is particularly true for children and adolescents, depending on their age, stage of development and personal resources [1]. The death of a parent or relative is one of the most traumatic events in a child's life [2] and is associated with a higher risk for developing psychiatric disorders [3,4], particularly anxiety [5], posttraumatic stress [2] and mood disorders [6,7]. Experiencing bereavement in childhood or adolescence have also been associated with increased all-cause mortality in early adulthood [8], including suicide [9]. Sometimes the grief process (i.e., attenuation of the grief response by coming to terms with the reality of the loss) proves to be longer and more intense, to be distressing and to have a significant impact on functioning. This clinical syndrome has been studied under various names including complicated grief, traumatic grief or prolonged grief. Recently, this condition has been introduced under the term of Prolonged Grief Disorder (PGD) [10], first in the International Classification of Diseases 11th Revision (ICD-11) in 2018 [11] and then in the main section of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) in 2022 [12,13], supporting further research as well as promoting clinical care both in adults and in children and adolescents. While the ICD-11 and DSM-5-TR diagnostic criteria sets have similarities, they also have certain differences. PGD_{DSM-5} can be diagnosed when a child suffers the death of a significant other and experiences symptoms of separation distress (e.g., yearning), combined with three of eight additional symptoms of "reactive distress to the death" (e.g., anger) and "social/identity disruption" (e.g., feeling alone or detached from others) to a functionally impairing degree, at least 6 months following the loss. PGD_{ICD-11} can be diagnosed when a child suffers from one of two symptoms of separation distress and at least one of ten accompanying symptoms (e.g., emotional numbness) to a distressing and disabling degree, at least 6 months after the death. In both diagnostic criteria sets, PGD identifies distress and impairment in response to the death of a loved one, while also clarifying certain age-specific clinical features in particular in children and adolescents. A recent study

suggested that these diagnostic criteria sets were valid and performed well in distinguishing PGD from Major Depressive Disorder (MDD) and Posttraumatic Stress Disorder (PTSD) [14].

There are several screening and diagnostic tools for PGD, adapted from existing tools for adults, or developed specifically for children and adolescents. The Inventory for Complicated Grief – Revised for Children is a modified version of the adult scale which demonstrated convergent and discriminant validity [15]. The most recently-developed tools include the Inventory of Prolonged Grief for Children (8-12 years) and for Adolescents (13-18 years), which have shown good psychometric properties [16] and specificity in discriminating between PGD, MDD and PTSD [17]. It should be noted that no diagnostic tool for children under the age of seven is currently available.

Several epidemiological studies investigating the prevalence of PGD have been conducted in adults. In two recent meta-analysis including mostly adults who had lost a loved one, the prevalence of PGD was estimated to be 9.8% in non-violent circumstances [18] and 49% in non-natural circumstances [19] such as accidents, natural disasters, suicides or homicides, which is very high but may indicate that this type of loss is a risk factor for PGD. A study conducted in a representative sample of the German population estimated the prevalence of newly diagnosed PGD in bereaved people, all causes combined, at 3.3% for the $PGD_{DSM\text{-}5\text{-}TR}$ and 4.2% for the $PGD_{ICD\text{-}11}$ [20].

Bereavement does not only occur in adulthood, as it is also a common experience among children and adolescents. In a study of 1,746 adolescents aged between 11 and 16 years conducted in Northern England, 77.6% reported that at least one of their first or second-degree relatives or close friends had died and 4.1% had lost a parent [21]. In 2017, South Africa had 2.8 million orphans, representing 14% of children [22]. Despite this, there is little data on the prevalence of PGD in the paediatric population. In some cases, the primary objective is often not to estimate prevalence but to test diagnostic criteria [14,23] or when prevalence is sought, the diagnostic criteria for PGD are not fully met [24–27]. Others studies focused on specific situations such as adolescents exposed to a peer's suicide [24,28] or trauma [26,29]. Most research has concentrated on the evaluation of prevention or treatment techniques [30–33], but also on predictors and correlates [34] of PGD in the youth. In 2019, a prevalence of 12.4% was measured in a sample of n=291 bereaved children aged 8 to 18 years, using ICD-11 criteria [14]. Studies reported that PGD is related to a personal history of

depression and a family history of anxiety disorder [28], circumstances of death [35], significant functional impact [36] and psychiatric comorbidities [27,37] after the loss.

To our knowledge, no systematic review of the literature has investigating existing data on the prevalence of PGD in children and adolescents. Identifying factors associated with this condition is also critical to support its detection, and to develop targeted prevention and treatment strategies. Therefore, the present systematic review aims to: (i) review existing data on the prevalence of PGD in bereaved children and adolescents; and (ii) identify factors associated with PGD in this population.

2. Materials and Methods

A systematic review of the literature was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines [38]. The review protocol was developed in advance and registered within PROSPERO, an international prospective register for review protocols, in March 2021 (CRD42021236026).

2.1. Data sources and search strategy

The following six electronic databases were systematically searched: MEDLINE, EMBASE, PsycINFO, PsycARTICLES, Web of Science, Cochrane Central Register of Controlled Trials (CENTRAL, Cochrane Library). In addition to this systematic screening, a grey literature search was performed using the OpenGrey database. A hand-search was also performed in *Death Studies* (1977-2021), *Bereavement Care* (1982-2021) and *Journal of Loss and Trauma* (1996-2021). Reference lists of relevant articles were also screened, as well as studies included in prior reviews and meta-analyses. All identified articles were included with no setback restriction until September 15, 2021. No language restrictions were applied.

The search equation was performed by combining MeSH terms and free text (keywords) related to the population (child OR adolescent), the condition (PGD) and the outcome (prevalence), adapted to each database. The search algorithms are presented in the supplementary data.

2.2. Selection criteria

We included epidemiological studies that estimated the prevalence of PGD among subjects under 18 years of age who have experienced the loss of a loved one. The prevalence of PGD had to have been assessed after a period of at least 6 months after the loss. The diagnosis of PGD had to be made using either a standardized and validated psychometric self-report instrument, or a clinical interview based on the criteria of a PGD conceptualization.

Interventional, qualitative and case studies were excluded, as were studies involving subjects over the age of 18. Where the sample contained both children and adults, only studies in which it was possible to isolate a prevalence in subjects under 18 were included. Other types of losses (e.g., divorce, separation, loss of a pet, loss of material goods) were excluded.

2.3. Risk of bias assessment

We used a tool developed for population-based prevalence studies [39] to assess risk of bias (RoB), which is composed of 10 items. External validity is assessed in the first four items and internal validity is assessed in the last six items. The items are binary questions, for example: "Was the likelihood of non-response bias minimal?". Each item is scored as follows: 1 for yes or 0 for no. The sum of the items gives a RoB total score for each study (with lower RoB indicating higher methodological validity). In accordance with the guidelines, when a study provided insufficient information to enable a judgment, the item was rated high RoB (0 point). Studies scoring 6 points or less were considered to have high RoB, studies scoring 7 or 8 points were considered to have moderate RoB and studies scoring 9 or 10 points were considered to have low RoB. The RoB was evaluated independently by two reviewers (AF and AL).

2.4. Data extraction

Two reviewers (AF and AL) independently performed databases search and articles screening using Zotero software (https://www.zotero.org/) and Rayyan Software, a free web-tool designed to help researchers working on systematic reviews (https://rayyan.qcri.org/). Titles and abstracts were screened and all relevant articles were then reviewed in full-length. Any disagreement was resolved through discussion with the senior author (AR) to reach a consensus.

Information extracted from the studies included year of publication, country and study design. Diagnostic terminology and the diagnostic tools used and their cut-off points were reported. Population characteristics such as sample size, percentage of women, age range and mean age of participants, recruitment procedures were also detailed. Characteristics related to the loss were described: duration since the loss, relationship to the deceased and cause of death. Finally, the prevalence of PGD was retrieved.

3. Results

3.1. Study selection and screening

Our search yielded five articles, which was insufficient to perform a meta-analysis, but provided descriptive insight on the prevalence of PGD in children and adolescents. Most of the articles excluded either concerned PGD in adults or did not report data on the prevalence of PGD. The study selection process is reported in detail in Figure 1.

3.2. Study characteristics

The included studies were published between 2011 and 2020. Each study was conducted in a different country: the USA, Indonesia, South Korea, South Africa, and Greece. There were three cross-sectional studies and two longitudinal studies. All used self-administered questionnaires: the Inventory of Complicated Grief and its revised version for children (ICG-RC or ICG) for three of them [40–42], Prolonged Grief-13 (PG-13) and the Traumatic Grief Inventory for Children (TGIC) for the other two [43,44]. Sample sizes ranged from n=57 to n=339, with an average of 55.6% female and a total of 856 youth included. Mean age ranged from 7 to 18 years. Most of the youth were recruited through their school. For one study, recruitment was carried through coroners' reports and a newspaper advertisement [42]. The mean time since loss ranged from 18 months [43] to 61 months [41]. The deceased were mostly family members, close friends or classmates [40]. The causes of death were diverse, ranging from natural causes to illness [41], suicide [42] or ferry [40] and bus [43] accidents. The prevalence of PGD in the different studies ranged from 10.4% to 32%. More details are available in Table 2.

3.3. Risk of bias assessment

We found four studies with a total score ranging from 4 to 6 points, which means that the RoB was high [40–42,44]. The last study had a total score of 7, meaning that the RoB was moderate [43]. The majority of the studies show high internal validity (low Rob on items 5-10), except for one [42], and low external validity (high RoB on items 1-4). Regarding external validity, most of the samples in the included studies did not provide a close representation of the target population, especially during accidents or natural disasters [40,43,44], and did not use some form of random selection for their sample [40–42,44]. RoB scores are reported in Table 1.

3.4. Moderators of PGD prevalence

Most of the included studies investigated different common moderating factors of PGD such as: gender and socioeconomic level of the youth, relationship with the deceased, circumstances of death (traumatic or non-traumatic), time elapsed since the loss and influence of the environment before and after the death (e.g., life events, psychological health of parents, social support) as well as the psychological and functional impact on the youth (Table 3).

3.4.1. Sociodemographic and death-related factors

Girls seemed to report more PGD than boys and score higher on the PG-13 [44]. One study [41] found that the loss of a biological parent doubles the risk of PGD in adolescents. In addition, prolonged grief has been found to be predicted by the total number of losses a child has experienced [44]. Indeed, in the latter study, they found that having lost a parent in the tsunami, combined with the number of deaths experienced over the child's lifetime, significantly predicted the degree of severity of prolonged grief following the tsunami. On the other hand, direct exposure to the accident could be significantly associated with PGD in adolescents [43]. Finally, economic hardship (i.e. the level of adolescent economic disadvantage) since the loss appears to increase the risk of PGD among bereaved adolescents girls in South Africa. Post-loss economic hardships were experienced by 43% of the

adolescents girls in this study and those who experienced economic hardship were 88% more likely to experience PGD than their economically stable counterparts [41].

3.4.2. Psychopathological factors

A bidirectional relationship may exist between PGD and psychiatric vulnerability. Young people with a higher ICG-RC score and whose surviving parent suffered from PGD would have an increased risk of incident depression up to three years after the death [42]. Similarly, the likelihood of belonging to the "recovery" versus "persistent grief" group was positively related to not experiencing PTSD or depression 18 months after the loss in another study [41]. Conversely, a positive correlation was found between high CROPS (Child Report of Post-traumatic Symptoms) scores and PGD [40]. In the same way, each unit increase in the caregiver's ICG-RC score significantly increased the likelihood that the adolescent would experience PGD by 4% [41].

All these results also suggest that PGD is associated with difficulties in general functioning. Indeed, functional impairment scores (measured by the Strengths and Difficulties Questionnaire (SDQ)) are significantly higher in the "persistent grief" group [43] and the association between PGD and functional impairment may persist over time (up to 3 years after the loss) [42]. In addition, there is a significant correlation between high PGD scores and decreased scores in the “Autonomy and parents” section, in the KIDSCREEN-27 scale. This section examines the quality of child and parent interactions and how the child feels loved and supported by the family, but also the level of autonomy the child feels he or she has and the financial resources he or she values in the family [40]. On the contrary, perceived social support assessed in the first two months post loss is associated with a decrease in grief symptoms and the absence of PGD, at 18 months [43].

4. Discussion

4.1. Main results

This systematic review of the literature included five studies and a population of 856 youth. To our knowledge, this is the first study to focus on the prevalence of PGD in children and adolescents in a systematic way. All studies are in developed countries. Three of the five studies involved populations

who had experienced bereavement under traumatic circumstances. The study [44] which found the highest prevalence (32%) was a cross-sectional study, on a sample of children who had lost a close friend or family member in a tsunami. Conversely, the study [42] with the lowest prevalence (10.4%) was a longitudinal study over several years, involving a sample of children and adolescents who had lost a parent in various circumstances, which was probably more representative of the general population. The prevalence rates of the included studies varied significantly, probably due to moderating factors and to the diversity of PGD diagnostic tools used. However, the use of self-administered questionnaires was fairly homogeneous, since four of the five included studies used the Inventory of Complicated Grief, whether revised for children (ICG-RC) or combined with the Trauma Symptom Inventory (TGIC).

Regarding the socio-demographic factors, girls appear to report more prolonged grief symptoms and more severe scores as well [44]. This may be due to the influence of Islamic cultural and religious factors in this population where women would be encouraged to keep their feelings silent. In this context, they would be less allowed to talk about grief and their grief reactions, which could influence the grieving process. This vulnerability was also found in a longitudinal study of adolescents experiencing parental bereavement [45] that showed chronic depression and increased anxiety in girls while both regressed in boys. According to the authors, this difference may be related in part to a higher initial level of stress and fear of abandonment in girls (related to interpersonal difficulties like separation from parents or conflict with peers). Their analyses also revealed that girls were at greater risk of developing symptoms of depression or anxiety (more than one year after death) because of their greater difficulty internalizing stressors.

We found in one of the included studies that PGD was almost twice as common when the deceased was a biological parent compared to other members of the entourage [41]. On the other hands, previous studies [46,47] have shown that the death of a friend can lead to more intense grief symptoms than the death of a family member. Finally, the factors for maintaining grief and those related to the intensity of grief could differ.

The severity of PGD may also depend on the number of deaths experienced by a child [44]. This phenomenon can be explained by considering that each bereavement experienced is traumatic

and can diminish the young person's internal resources to recover each time. In some cultures, like Islamic culture, where communal living and extended families are the norm, this impact could be increased [44]. In addition, direct exposure to the accident that caused the death could be significantly associated with PGD in adolescents [43]. This result was found in a singular context of collective trauma (bus accident), where children witnessed both the accident, the death but also the stress reactions of their peers. A recent study [35] found that children who have lost a caregiver due to a prolonged illness have higher levels of PGD and post-traumatic stress symptoms than children who have lost a caregiver due to a sudden natural death (e.g., a heart attack). It can be hypothesized that children's exposure to a parent's chronic illness and subsequent death may be more traumatic and expose them to the death and grieving process more often than a sudden death. The negative emotions of grief such as anxieties about the death, feelings of helplessness or guilt are more present. Indeed, peritraumatic distress has been shown to be a significant predictor of the severity of PGD symptoms [48].

We also found that economic stressors could have a significant impact on the risk of PGD [40,41]. In fact, a qualitative study in South Africa found that meeting a person's primary needs after the loss of a household member is most important and that attention to grief will be secondary [49]. In some circumstances, ensuring that the basic material needs of youth and their families are met may be an important step in care, allowing them to identify their potential need for help with their PGD in a second stage. However, this association was not found in one of the included studies [44] where material losses were high and poverty increased in this region of Indonesia where children's primary needs are often not met.

Three of the included studies found an influence of comorbidities such as depression, PTSD or trauma symptoms on the presence of PGD [40–42]. We might hypothesize that the youth's adaptive capacities are already strained in the case of additional trauma or depression, preventing them from using them in the grieving process. Indeed, it appears that the absence of associated comorbidity promotes the normal grieving process [41]. These results are related to other research [28,50]. Two of these three last studies also suggest that the psychological state of the surviving parent would strongly influence that of the child, whether in terms of depression [42] or the severity of PGD [40,41]. Several

studies have highlighted this association, particularly with regard to the parent's ability to take care of the child, to be available and attentive to the child's needs [4,34]. Furthermore, our results suggest that bereaved youth may have difficulties in functioning, including in terms of autonomy or relationship with their parent when suffering from PGD, in addition to other psychopathological conditions before and after the death [40,42,43]. However, if this functional impact is associated with other psychiatric comorbidities such as depression and PTSD, then they may increase the patient's difficulties in daily life [17].

Finally, social support seems to be a protective factor that facilitates the grieving process as well [51]. Bereavement support groups increase the sense of social support due to the sharing of experiences and emotions, in addition to the psychotherapeutic effect alone. Thurman et al. showed, in a case-control study that participation at the Abangane intervention (“friends” in isiZulu, the local language), which is a loss management support group that combines cognitive behavioral therapy with indigenous communal culture, decreased PGD scores [52].

Our results may not be generalizable to clinical practice for several reasons. Most of the participants in the included studies experienced bereavement under often traumatic circumstances (accident, natural disasters) [40,43,44]. It would be necessary to be able to analyze studies carried out on samples of the population recording the loss of a loved one, all causes combined, without any link with a particular event. In addition, there is a selection bias in most of the studies that selected a sample of young people in schools or during prevention programs. To conclude, to limit confounding bias, it would seem important to know whether participants received grief-focused care or not, which could not be done in one study [43].

4.2. Limitations

Although our systematic review is not without limitations. First, we were able to include only five studies in our systematic review, which did not allow us to conduct a meta-analysis as we had envisaged when drafting our protocol. In addition, four of the five studies had small sample sizes. Second, we chose to include studies using standardized and validated but not PGD-specific tools as

newly included in international classifications. Similarly, one of the scales has not been validated in the country of the study concerned [41]. A final limitation concerns the study by Melhem et al [42] which looked at different trajectories of grief, one of which concerned the absence of symptom decline from the third quartile of the IGC-RC throughout the study follow-up period, without specifying that this corresponds to PGD (the prevalence of this category of young people being consistent with the 10.4% reported in our study). Despite this methodological difference, we chose to include this study, on the one hand because of the existing heterogeneity of definitions of PGD, and on the other hand because this prevalence seemed to correspond to the current conceptualization of PGD, namely a grief reaction that persists in time and intensity.

4.3. Future directions

Despite emerging data on the prevalence of PGD in children and adolescents, large epidemiological studies among children and adolescents of various ages, with different recruitment methods and including exposure to various bereavement situations, are needed, in order to examine moderating factors, including across different subgroups based on risk factors. As has been studied for MDD and PTSD [53], it would be important to know whether the onset of PGD is related to the developmental age at which the bereavement occurs. Furthermore, the interaction between the grief reactions of the surviving parent and the child seems to be an area of future research of particular interest. Studies could more accurately analyze the grief trajectory of the surviving parent versus that of the bereaved child, as has been studied for trauma and stress syndrome [54]. In addition, some symptoms are found in several diagnostic entities. It would therefore be necessary to always assess for the existence of PTSD or MDD in parallel, in order to screen for a differentiated comorbidity of PGD, in children.

5. Conclusion

This systematic review allowed us to analyze existing data on the prevalence of PGD in bereaved children and adolescents and to identify factors associated with PGD in this population. However, it seems important to be able to conduct a new systematic search to identify more studies reporting a prevalence of PGD that would then allow for a meta-analysis and more meaningful results.

Vu, le président du jury
9/9/22
Professeur Jean-Philippe RAYNAUD

Vu et permis d'imprimer
Le Président de l'Université Toulouse III – Paul Sabatier
Faculté de Santé
Par délégation,
La Doyenne-Directrice
Du Département de Médecine, Maïeutique, Paramédical
Professeure Odile RAUZY

References

1 de Broca A. Bereavement in infants and children. *Ann Méd-Psychol Rev Psychiatr* 2013;**171**:164–7. doi:10.1016/j.amp.2013.01.019

2 Boelen PA, Spuij M. Symptoms of Post-Traumatic Stress Disorder in Bereaved Children and Adolescents: Factor Structure and Correlates. *J Abnorm Child Psychol* 2013;**41**:1097–108. doi:10.1007/s10802-013-9748-6

3 Nickerson A, Bryant RA, Aderka IM, *et al.* The impacts of parental loss and adverse parenting on mental health: Findings from the National Comorbidity Survey-Replication. *Psychol Trauma Theory Res Pract Policy* 2013;**5**:119–27. doi:10.1037/a0025695

4 Cerel J, Fristad MA, Verducci J, *et al.* Childhood Bereavement: Psychopathology in the 2 Years Postparental Death. *J Am Acad Child Adolesc Psychiatry* 2006;**45**:681–90. doi:10.1097/01.chi.0000215327.58799.05

5 Kaplow JB, Shapiro DN, Wardecker BM, *et al.* Psychological and Environmental Correlates of HPA Axis Functioning in Parentally Bereaved Children: Preliminary Findings: HPA Axis Functioning in Bereaved Children. *J Trauma Stress* 2013;**26**:233–40. doi:10.1002/jts.21788

6 Berg L, Rostila M, Hjern A. Parental death during childhood and depression in young adults – a national cohort study. *J Child Psychol Psychiatry* 2016;**57**:1092–8. doi:10.1111/jcpp.12560

7 Boelen PA, Spuij M. Negative Cognitions in Loss-Related Emotional Distress in Adolescent Girls: A Preliminary Study. *J Loss Trauma* 2008;**13**:441–9. doi:10.1080/15325020802171292

8 Li J, Vestergaard M, Cnattingius S, *et al.* Mortality after Parental Death in Childhood: A Nationwide Cohort Study from Three Nordic Countries. *PLoS Med* 2014;**11**:e1001679. doi:10.1371/journal.pmed.1001679

9 Guldin M-B, Li J, Pedersen HS, *et al.* Incidence of Suicide Among Persons Who Had a Parent Who Died During Their Childhood: A Population-Based Cohort Study. *JAMA Psychiatry* 2015;**72**:1227. doi:10.1001/jamapsychiatry.2015.2094

10 Prigerson HG, Horowitz MJ, Jacobs SC, *et al.* Prolonged Grief Disorder: Psychometric Validation of Criteria Proposed for DSM-V and ICD-11. *PLoS Med* 2009;**6**:e1000121. doi:10.1371/journal.pmed.1000121

11 WHO 2018 Prolonged grief disorder criteria. 2018. https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/1183832314

12 American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR™)*. 2022.

13 Prigerson HG, Boelen PA, Xu J, *et al.* Validation of the new DSM-5-TR criteria for prolonged grief disorder and the PG-13-Revised (PG-13-R) scale. *World Psychiatry* 2021;**20**:96–106. doi:10.1002/wps.20823

14 Boelen PA, Spuij M, Lenferink LIM. Comparison of DSM-5 criteria for persistent complex bereavement disorder and ICD-11 criteria for prolonged grief disorder in help-seeking bereaved children. *J Affect Disord* 2019;**250**:71–8. doi:10.1016/j.jad.2019.02.046

15 Melhem, N. M., Moritz, G., Walker, M., Shear, M. K., & Brent, D. Inventory for Complicated Grief–-Revised for Children (ICG-RC, ICG, ICG-R). Published Online First: 2013.https://doi.org/10.1037/t59880-000

16 Spuij M, Prinzie P, Zijderlaan J, *et al.* Psychometric Properties of the Dutch Inventories of Prolonged Grief for Children and Adolescents: Dutch IPG-C and IPG-A. *Clin Psychol Psychother* 2012;**19**:540–51. doi:10.1002/cpp.765

17 Spuij M, Reitz E, Prinzie P, *et al.* Distinctiveness of symptoms of prolonged grief, depression, and post-traumatic stress in bereaved children and adolescents. *Eur Child Adolesc Psychiatry* 2012;**21**:673–9. doi:10.1007/s00787-012-0307-4

18 Lundorff M, Holmgren H, Zachariae R, *et al.* Prevalence of prolonged grief disorder in adult bereavement: A systematic review and meta-analysis. *J Affect Disord* 2017;**212**:138–49. doi:10.1016/j.jad.2017.01.030

19 Djelantik AAAMJ, Smid GE, Mroz A, *et al.* The prevalence of prolonged grief disorder in bereaved individuals following unnatural losses: Systematic review and meta regression analysis. *J Affect Disord* 2020;**265**:146–56. doi:10.1016/j.jad.2020.01.034

20 Rosner R, Comtesse H, Vogel A, *et al.* Prevalence of prolonged grief disorder. *J Affect Disord* 2021;**287**:301–7. doi:10.1016/j.jad.2021.03.058

21 Harrison L, Harrington R. Adolescents' bereavement experiences. Prevalence, association with depressive symptoms, and use of services. *J Adolesc* 2001;**24**:159–69. doi:10.1006/jado.2001.0379

22 Hall K, Sambu W. Demography of South Africa's children. 2018;:5.

23 Kaplow JB, Layne CM, Oosterhoff B, *et al.* Validation of the Persistent Complex Bereavement Disorder (PCBD) Checklist: A Developmentally Informed Assessment Tool for Bereaved Youth: Persistent Complex Bereavement Disorder Checklist. *J Trauma Stress* 2018;**31**:244–54. doi:10.1002/jts.22277

24 Cha JM, Kim JE, Kim MA, *et al.* Five Months Follow-up Study of School-based Crisis Intervention for Korean High School Students Who Experienced a Peer Suicide. *J Korean Med Sci* 2018;**33**:e192. doi:10.3346/jkms.2018.33.e192

25 Betancourt TS, Newnham EA, Layne CM, *et al.* Trauma History and Psychopathology in War-Affected Refugee Children Referred for Trauma-Related Mental Health Services in the United States: Trauma and Psychopathology of Refugee Children. *J Trauma Stress* 2012;**25**:682–90. doi:10.1002/jts.21749

26 Betancourt TS, Newnham EA, Birman D, *et al.* Comparing Trauma Exposure, Mental Health Needs, and Service Utilization Across Clinical Samples of Refugee, Immigrant, and U.S.-Origin Children: Mental Health Service Use for Refugee Children. *J Trauma Stress* 2017;**30**:209–18. doi:10.1002/jts.22186

27 Salloum A, Bjoerke A, Johnco C. The Associations of Complicated Grief, Depression, Posttraumatic Growth, and Hope Among Bereaved Youth. *OMEGA - J Death Dying* 2019;**79**:157–73. doi:10.1177/0030222817719805

28 Melhem NM, Day N, Shear MK, *et al.* Predictors of complicated grief among adolescents exposed to a peer's suicide. *J Loss Trauma* 2004;**9**:21–34. doi:10.1080/1532502490255287

29 McClatchy IS, Vonk ME, Palardy G. The Prevalence of Childhood Traumatic Grief—A Comparison of Violent/Sudden and Expected Loss. *OMEGA - J Death Dying* 2009;**59**:305–23. doi:10.2190/OM.59.4.b

30 Sandler IN, Ma Y, Tein J-Y, *et al.* Long-term effects of the family bereavement program on multiple indicators of grief in parentally bereaved children and adolescents. *J Consult Clin Psychol* 2010;**78**:131–43. doi:10.1037/a0018393

31 Cohen JA, Mannarino AP, Knudsen K. Treating Childhood Traumatic Grief: A Pilot Study. *J Am Acad Child Adolesc Psychiatry* 2004;**43**:1225–33. doi:10.1097/01.chi.0000135620.15522.38

32 Spuij M, Dekovic M, Boelen PA. An Open Trial of 'Grief-Help': A Cognitive-Behavioural Treatment for Prolonged Grief in Children and Adolescents: CBT for Childhood PGD. *Clin Psychol Psychother* 2015;**22**:185–92. doi:10.1002/cpp.1877

33 Unterhitzenberger J, Rosner R. Lessons from writing sessions: a school-based randomized trial with adolescent orphans in Rwanda. *Eur J Psychotraumatology* 2014;**5**:24917. doi:10.3402/ejpt.v5.24917

34 Brown EJ, Amaya-Jackson L, Cohen J, *et al.* Childhood traumatic grief: A multi-site empirical examination of the construct and its correlates. *Death Stud* 2008;**32**:899–923. doi:10.1080/07481180802440209

35 Kaplow JB, Howell KH, Layne CM. Do circumstances of the death matter? Identifying socioenvironmental risks for grief-related psychopathology in bereaved youth. *J Trauma Stress* 2014;**27**:42–9. doi:10.1002/jts.21877

36 Melhem NM, Moritz G, Walker M, *et al.* Phenomenology and Correlates of Complicated Grief in Children and Adolescents. *J Am Acad Child Adolesc Psychiatry* 2007;**46**:493–9. doi:10.1097/chi.0b013e31803062a9

37 Bylund-Grenklo T, Fürst CJ, Nyberg T, *et al.* Unresolved grief and its consequences. A nationwide follow-up of teenage loss of a parent to cancer 6–9 years earlier. *Support Care Cancer* Published Online First: 22 February 2016. doi:10.1007/s00520-016-3118-1

38 Moher D, Liberati A, Tetzlaff J, *et al.* Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ* 2009;**339**:b2535–b2535. doi:10.1136/bmj.b2535

39 Hoy D, Brooks P, Woolf A, *et al.* Assessing risk of bias in prevalence studies: modification of an existing tool and evidence of interrater agreement. *J Clin Epidemiol* 2012;**65**:934–9. doi:10.1016/j.jclinepi.2011.11.014

40 Lee SH, Nam HS, Kim HB, *et al.* Factors Associated with Complicated Grief in Students Who Survived the Sewol Ferry Disaster in South Korea. *Psychiatry Investig* 2018;**15**:254–60. doi:10.30773/pi.2017.05.04

41 Thurman TR, Taylor TM, Luckett B, *et al.* Complicated grief and caregiving correlates among bereaved adolescent girls in South Africa. *J Adolesc* 2018;**62**:82–6. doi:10.1016/j.adolescence.2017.11.009

42 Melhem NM, Porta G, Shamseddeen W, *et al.* Grief in children and adolescents bereaved by sudden parental death. *Arch Gen Psychiatry* 2011;**68**:911–9. doi:10.1001/archgenpsychiatry.2011.101

43 Giannopoulou I, Richardson C, Papadatou D. Peer loss: Posttraumatic stress, depression, and grief symptoms in a traumatized adolescent community. *Clin Child Psychol Psychiatry* 2020;:1359104520980028. doi:10.1177/1359104520980028

44 Dawson KS, Joscelyne A, Meijer C, *et al.* Predictors of chronic posttraumatic response in Muslim children following natural disaster. *Psychol Trauma Theory Res Pract Policy* 2014;**6**:580–7. doi:10.1037/a0037140

45 Little M, Sandler IN, Wolchik SA, *et al.* Comparing Cognitive, Relational and Stress Mechanisms Underlying Gender Differences in Recovery from Bereavement-Related Internalizing Problems. *J Clin Child Adolesc Psychol* 2009;**38**:486–500. doi:10.1080/15374410902976353

46 Center for Crisis Psychology, Bergen, Norway, Johnsen I, Jon Christian L, *et al.* Psychosocial functioning after losing a close friend in an extreme terror incident. *Scand Psychol* 2015;**2**. doi:10.15714/scandpsychol.2.e5

47 Servaty-Seib HL, Pistole MC. Adolescent Grief: Relationship Category and Emotional Closeness. *OMEGA - J Death Dying* 2007;**54**:147–67. doi:10.2190/M002-1541-JP28-4673

48 Revet A, Suc A, Auriol F, *et al.* Peritraumatic distress predicts prolonged grief disorder symptom severity after the death of a parent in children and adolescents. *Eur J Psychotraumatology* 2021;**12**:1936916. doi:10.1080/20008198.2021.1936916

49 Demmer C. Grief is a Luxury: Aids-Related Loss among the Poor in South Africa. *Illn Crisis Loss* 2007;**15**:39–51. doi:10.1177/105413730701500103

50 Layne CM, Kaplow JB, Oosterhoff B, *et al.* The Interplay between Posttraumatic Stress and Grief Reactions in Traumatically Bereaved Adolescents: When Trauma, Bereavement, and Adolescence Converge. *Adolesc Psychiatry* 2018;**7**:266–85. doi:10.2174/2210676608666180306162544

51 Salloum A, Overstreet S. Grief and trauma intervention for children after disaster: exploring coping skills versus trauma narration. *Behav Res Ther* 2012;**50**:169-179. doi:10.1016/j.brat.2012.01.001

52 Thurman TR, Luckett BG, Nice J, *et al.* Effect of a bereavement support group on female adolescents' psychological health: a randomised controlled trial in South Africa. *Lancet Glob Health* 2017;**5**:e604–14. doi:10.1016/S2214-109X(17)30146-8

53 Dunn EC, Nishimi K, Powers A, *et al.* Is developmental timing of trauma exposure associated with depressive and post-traumatic stress disorder symptoms in adulthood? *J Psychiatr Res* 2017;**84**:119–27. doi:10.1016/j.jpsychires.2016.09.004

54 Marzilli E, Cerniglia L, Tambelli R, *et al.* The COVID-19 Pandemic and Its Impact on Families' Mental Health: The Role Played by Parenting Stress, Parents' Past Trauma, and Resilience. *Int J Environ Res Public Health* 2021;**18**:11450. doi:10.3390/ijerph182111450

Tables

Table 1. Risk of bias assessment scores.

Studies/criteria	1	2	3	4	5	6	7	8	9	Risk of bias score
NM Melhem et al. (2011) (USA)	No	Yes	No	Yes	No	No	Yes	No	Yes	High
Dawson et al. (2014) (Indonesia)	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	High
SH Lee et al. (2018) (South Korea)	No	Yes	No	Yes	No	Yes	Yes	No	Yes	High
TR Thurman et al. (2018) (South Africa)	Yes	No	No	No	No	Yes	Yes	Yes	Yes	High
Giannopoulou et al. (2020) (Greece)	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Moderate

Criteria: 1.Was the study's target population a close representation of the national population in relation to relevant variables, e.g. age, sex, occupation?; 2. Was the sampling frame a true or close representation of the target population?; 3.Was some form of random selection used to select the sample, OR, was a census undertaken?; 4.Was the likelihood of non-response bias minimal?; 5.Were data collected directly from the subjects (as opposed to a proxy)?; 6.Was an acceptable case definition used in the study?; 7.Was the study instrument that measured the parameter of interest (e.g. prevalence of low back pain) shown to have reliability and validity (if necessary)?; 8.Was the same mode of data collection used for all subjects?; 9.Were the numerator(s) and denominator(s) for the parameter of interest appropriate?

Table 2. Characteristics of the included studies.

Author(s) (year)	Country	Study design	Diagnostic criteria (terminology, assessment instrument)	Cut off value	Interview	Study population (sample size, % female, age)	Sample recruitment and characteristics	Mean time post-loss	Relation to the deceased	Cause of death	Prevalence
NM Melhem et al. (2011)	USA	Longitudinal study	Prolonged grief reaction, ICG-RC	N/A	Self-report	n=182, 45.6% Age: 7-18 y-o *M*= 12.4 y-o *SD*= 2.8	Bereaved families were recruited via coroners' reports and responses to a newspaper advertisement.	33.2 months (SD=5.7)	Parents	Suicide (n=42), Unintentional injury (n=31) Sudden natural causes (n=51)	10.4%
Dawson et al. (2014)	Indonesia	Cross-sectional study	Prolonged grief, PG-13	Linguistic and cultural equivalency could not be established for item five so this item has been excluded from the scale. Experience yearning or emotional pain about the loss at least daily and score at least "4" on five of the remaining nine items	Self-report	n=110, 59% Age: 7-13 y-o *M*= 10.4 y-o *SD*= 1.38	Four schools in the Aceh region affected by the tsunami have been recruited. All children participating in the afterschool program, conducted by the Centre Mulia Hati, were invited to complete the survey. 60% reported experiencing the death of a loved one.	60 months	Close friend or family member	Tsunami	32%

Author(s) (year)	Country	Study design	Diagnostic criteria (terminology, assessment instrument)	Cut off value	Interview	Study population (sample size, % female, age)	Sample recruitment and characteristics	Mean time post-loss	Relation to the deceased	Cause of death	Prevalence
SH Lee et al. (2018)	South Korea	Cross-sectional study	Complicated Grief, ICG	Cut off ≥ 25	Self-report	n=57, 49.1% Age: 16-18 y-o *M*= 17.8 y-o N/A	This study was performed with Danwon high school students who survived the Sewol ferry disaster. 75% of the surviving students participated in the study.	20 months	Friend	Ferry disaster	24.5%
TR Thurman et al. (2018)	South Africa	Cross-sectional study	Complicated Grief, ICG-RC	Cut off ≥ 14	Self-report	n=339 female adolescents 100% *M*= 14.5 y-o *SD*= 1.2	Data were collected during the baseline phase of an evaluation of a bereavement support program. Participants were identified through a school-based intake process coordinated by the program implementer, Child Welfare Bloemfontein and Childline Free State, a nongovernmental organization based in South Africa's Free State province.	61 months (SD = 3.7)	Biological parent (49%) Grandparent (29.5%) Other (21.5%)	Illness (74.9%)	20%

Author(s) (year)	Country	Study design	Diagnostic criteria (terminology, assessment instrument)	Cut off value	Interview	Study population (sample size, % female, age)	Sample recruitment and characteristics	Mean time post-loss	Relation to the deceased	Cause of death	Prevalence
Giannopoulou et al. (2020)	Greece	Longitudinal study	Traumatic grief, TGIC (Greek version)	Traumatic grief symptoms scores were classified into 4 groups based on quartiles: resilient, recovery, towards recovery, persistent grief	Self-report	n=168 adolescents, 51.2% Age: 12-17 y-o *M*= 14.5 years *SD*= 1.3	Baseline data were collected from all students in grades 8 to 12, attending all three secondary schools in the rural community. The adolescents were classified into 3 groups based on their exposure to the bus accident: directly in the bus, in the area, indirectly affected.	18 months	Close friend or school peer	School bus accident (n=7)	21% scoring within the high and medium high range (above the 50th percentile) at baseline and follow-up

Abbreviations: ICG, Inventory of Complicated Grief; ICG-RC, Inventory of Complicated Grief Revised for Children; N/A, Not applied; PCBD, Persistent Complex Bereavement Disorder; PG-13, Prolonged Grief Disorder 13 - Child Version; PGD, Prolonged Grief Disorder; PGQ-A, Prolonged Grief Questionnaire for Adolescents; TGIC, Traumatic Grief Inventory for Children; y-o, year old.

Table 3. Factors influencing prevalence in the included studies.

Study	Type of analysis	Sociodemographic factors	Factors related to loss	Psychopathological factors
NM Melhem et al. (2011) (USA)	Multinomial logistic regression for predictors Kaplan-Meier survival analysis to examine the time to onset of depression by bereavement class	N/A	N/A	Significant effect of the association of PGD in the surviving parent and child on the risk of depression up to 3 years after death (OR 1.2, 95% CI, 1.00-1.36, p=0.049) Significant effect of the presence of PGD in children on functional impairment over 3 years (β=−14.1, p=0.006)
Dawson et al. (2014) (Indonesia)	Hierarchical regression	PGD is more common in girls (x^2 =10.58 p<0.001) Being a girl predicts more severe PG-13 scores in children (B =7.56, p<0.02)	Having a parent die in the tsunami and the total number of deaths a child has experienced significantly predicts the severity of PGD (B=18.60, p<0.000) and explain >60% of the variance	Cognitive avoidance as a form of coping explains 6% of the variance in severity of PGD (B=1.70, p<0.000)
SH Lee et al. (2018) (South Korea)	Logistic regression with a Poisson distribution	N/A	N/A	Significant correlation between high CROPS score and PGD (coef. =0.030, p=0.017, 95% CI, 0.005–0.054) Significant correlation between high PGD scores and lower score in autonomy and relationship with parents, on the KIDSCREEN-27 (coef. =-0.051, p=0.032, 95% CI, -0.098 to -0.004)

Study	Type of analysis	Sociodemographic factors	Factors related to loss	Psychopathological factors
TR Thurman et al. (2018) (South Africa)	Logistic Regression	N/A	The loss of a biological parent double adolescents' risk of PGD (OR 1.99, 95% CI = 1.09–3.65, $p<0.01$) 88% increase in the risk of PGD in adolescents due to economic stressors since loss (OR 1.88, 95% CI, 1.06-3.32, $p<0.01$)	4% increase in the risk of PGD in adolescents for each unit increase in the ICG-R score in the parent (OR 1.04, 95% CI, 1.00–1.07, $p<0.05$)
Giannopoulou et al. (2020) (Greece)	Multinomial logistic regression model	N/A	PGD symptoms were significantly higher in adolescents directly exposed to the area ($p<0.017$)	Probability of belonging to the « recovery » versus « persistent grief » group is positively related to not suffering from PTSD or depression at 18 months after the loss ($p<0.001$) Higher functional impairment scores among those in the « persistent grief » group than other groups ($p<0.001$) Perceived social support after the first 2 months post loss is associated with a « recovery grief » pattern at 18 months ($p<0.005$)

Abbreviations: CROPS: Child Report of Post-traumatic Symptoms, CRIES: Children's Revised Impact of Events Scale, LCGA: Latent class growth analysis, N/A: Not available, PGD: Prolonged Grief Disorder, PG-13: Prolonged Grief Disorder 13, PTSD: Post Traumatic Stress Disorder.

Figure

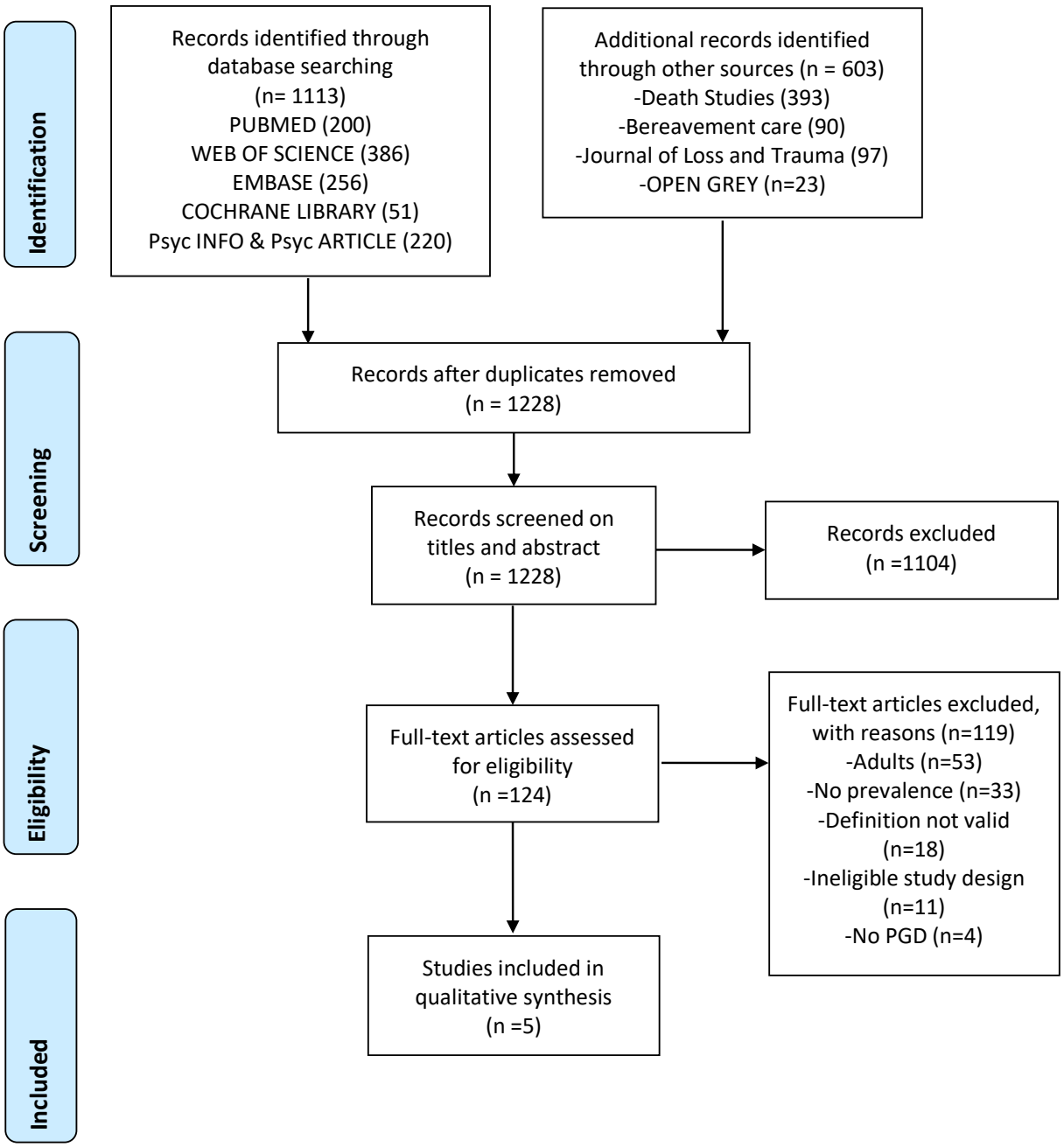

Figure 1. PRISMA Flow diagram of the selection process.

From: Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ*. 2009;339:b2535.

Supplementary material

Supplementary data 1. Search equations according to the different databases

MEDLINE

("complicated grief" OR "prolonged grief" OR "prolonged grief disorder" OR "persistent complex bereavement disorder" OR "traumatic grief" OR "delayed grief" OR "dysfunctional grief" OR "abnormal grief" OR "chronic grief" OR "morbid grief" OR "maladaptive grief" OR "atypical grief" OR "unresolved grief" OR "complex grief" OR "complicated bereavement" OR "prolonged bereavement" OR "traumatic bereavement" OR "abnormal bereavement" OR "atypical bereavement" OR "unresolved bereavement" OR "complex bereavement" OR "complicated mourning" OR "prolonged mourning" OR "traumatic mourning" OR "unresolved mourning") AND (children OR adolescent OR youth OR infant OR teen) AND (prevalence or incidence or frequency or proportion or number or amount or percentage or distribution)

Web of Science and EMBASE

("complicated grief" OR "prolonged grief" OR "prolonged grief disorder" OR "persistent complex bereavement disorder" OR "traumatic grief" OR "delayed grief" OR "dysfunctional grief" OR "abnormal grief" OR "chronic grief" OR "morbid grief" OR "maladaptive grief" OR "atypical grief" OR "unresolved grief" OR "complex grief" OR "complicated bereavement" OR "prolonged bereavement" OR "traumatic bereavement" OR "abnormal bereavement" OR "atypical bereavement" OR "unresolved bereavement" OR "complex bereavement" OR "complicated mourning" OR "prolonged mourning" OR "traumatic mourning" OR "unresolved mourning") AND (child* OR adolescen* OR youth OR infant* OR teen*) AND (prevalen* OR epidemiology OR inciden* OR frequenc* OR proportion OR number* OR amount* OR percentage* OR distribut*)

Cochrane Central Register of Controlled Trials (CENTRAL, Cochrane Library)

("complicated grief" OR "prolonged grief" OR "prolonged grief disorder" OR "persistent complex bereavement disorder" OR "traumatic grief" OR "delayed grief" OR "dysfunctional grief" OR "abnormal grief" OR "chronic grief" OR "morbid grief" OR "maladaptive grief" OR "atypical grief" OR "unresolved grief" OR "complex grief" OR "complicated bereavement" OR "prolonged bereavement" OR "traumatic bereavement" OR "abnormal bereavement" OR "atypical bereavement" OR "unresolved bereavement" OR "complex bereavement" OR "complicated mourning" OR "prolonged mourning" OR "traumatic mourning" OR "unresolved mourning") AND (child OR adolescent)

PsycINFO and PsycARTICLES

("complicated grief" OR "prolonged grief" OR "prolonged grief disorder" OR "persistent complex bereavement disorder" OR "traumatic grief" OR "delayed grief" OR "dysfunctional grief" OR "abnormal grief" OR "chronic grief" OR "morbid grief" OR "maladaptive grief" OR "atypical grief" OR "unresolved grief" OR "complex grief" OR "complicated bereavement" OR "prolonged bereavement" OR "traumatic bereavement" OR "abnormal bereavement" OR "atypical bereavement" OR "unresolved bereavement" OR "complex bereavement" OR "complicated mourning" OR "prolonged mourning" OR "traumatic mourning" OR "unresolved mourning")

Filters have been added according to the databases to refine the search, notably for PsyInfo where the prevalence has been filtered in this way.

FALALA Aude 2022 TOU3 1632

PREVALENCE OF PROLONGED GRIEF DISORDER IN BEREAVED CHILDREN AND ADOLESCENTS : A SYSTEMATIC REVIEW

ABSTRACT

Purpose: Prolonged Grief Disorder (PGD) is a condition recently introduced in international classifications of mental disorders. Although PGD is associated with significant distress and impairment that may have developmental consequences, to date, little is known about its prevalence and associated factors in children and adolescents. The present systematic review aims to: (i) review existing data on the prevalence of PGD in bereaved children and adolescents; (ii) identify factors associated with PGD in this population.
Methods: Six electronic databases, grey literature and a journal hand-search identified 1,716 articles with no backward limit to September 2021. Epidemiological studies were included if they reported the prevalence of PGD in bereaved children and adolescents. Study characteristics, diagnostic and assessment tools, population, loss-related characteristics and prevalence of PGD were reviewed.
Results: Five studies met our inclusion criteria. The reported prevalences of PGD ranged from 10.4% to 32%. Female gender, cognitive avoidance, chronic stressors such as economic hardship, exposure to trauma or other losses appear to be associated with more severe symptoms or even a higher risk of PGD. Conversely, data suggest social support may be protective.
Conclusion: This first systematic review found a relatively high prevalence of PGD in bereaved children and adolescents. While further large epidemiological studies are needed, this review highlights the importance of evaluating PGD in current clinical practice and suggests further research into diagnostic and therapeutic approaches targeting this disorder is warranted.

KEYWORDS: Prolonged grief disorder; prevalence; children; adolescent; systematic review.

Université Toulouse III-Paul Sabatier
Faculté de médecine Toulouse-Purpan,
37 Allées Jules Guesde 31000 Toulouse

Thesis research supervisors : Dr Alexis REVET and Dr Alice LANNES

FALALA Aude 2022 TOU3 1632

PREVALENCE DU TROUBLE DU DEUIL PROLONGE CHEZ LES ENFANTS ET LES ADOLESCENTS : REVUE SYSTEMATIQUE DE LA LITTERATURE

RESUME

Objectif : Le trouble du deuil prolongé (TDP) est une affection récemment introduite dans les classifications internationales des troubles mentaux. Bien que le TDP soit associé à une détresse et une déficience significative qui peuvent avoir des conséquences sur le développement, on sait peu de choses à ce jour sur sa prévalence et ses facteurs associés chez les enfants et les adolescents. La présente revue systématique enregistrée vise à : (i) examiner les données existantes sur la prévalence du TDP chez les enfants et les adolescents endeuillés ; (ii) identifier les facteurs associés au TDP dans cette population.
Méthodes : Six bases de données électroniques, de la littérature grise et une recherche manuelle de journaux ont permis d'identifier 1 716 articles sans limite de recul jusqu'en septembre 2021. Les études épidémiologiques ont été incluses si elles rapportaient la prévalence du TDP chez les enfants et adolescents endeuillés. Les caractéristiques des études, les outils de diagnostic et d'évaluation, la population, les caractéristiques liées à la perte et la prévalence du TDP ont été examinés.
Résultats : Cinq études répondaient à nos critères d'inclusion. Les prévalences rapportées du TDP variaient de 10,4 % à 32 %. Le sexe féminin, l'évitement cognitif, les facteurs de stress chroniques tels que les difficultés économiques, l'exposition à un traumatisme ou à d'autres pertes semblent être associés à des symptômes plus importants, voire à un risque plus élevé de TDP. À l'inverse, les données suggèrent que le soutien social peut être protecteur.
Conclusion : Cette première revue systématique a révélé une prévalence relativement élevée du TDP chez les enfants et les adolescents endeuillés. Bien que d'autres études épidémiologiques de grande envergure soient nécessaires, cette revue souligne l'importance d'évaluer le TDP dans la pratique clinique actuelle et suggère que des recherches supplémentaires sur les approches diagnostiques et thérapeutiques ciblant ce trouble sont justifiées.

DISCIPLINE ADMINISTRATIVE : Médecine spécialisée clinique

MOTS-CLÉS : Trouble du deuil prolongé; prévalence; enfants; adolescent; revue systématique.

Université Toulouse III-Paul Sabatier
Faculté de médecine Toulouse-Purpan,
37 Allées Jules Guesde 31000 Toulouse

Directeurs de thèse : Dr Alexis REVET et Dr Alice LANNES