

Informed Care In Trauma: An Emerging Model For Addressing The Depressive Subtype With A History Of Child Adversity

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Adverse childhood experiences (ACEs) are a risk factor for the development of the most prevalent mental disorders in adulthood, including major depression, and are associated with a more complex clinical presentation and increased severity, which requires a unique approach. In Chile, depression is subject to explicit legal mandates ensuring access to and guidelines for clinical care issued by the government. Ninety percent of depressed patients are treated in primary care. A third of primary patients presenting with depression in the VII Region are characterized by increased suicidality and histories of exposure to ACEs and violence within the family. These patients require a specialized treatment that incorporates research findings in the field of trauma, as applied to the treatment of depression. Together, results from the ACE Study, neurobiological evidence from exposure to toxic stress and the model of trauma-informed care comprise a framework that can orient clinical practice in healthcare settings. The purpose of this article is to review the literature with the goal of update the clinical approach and suggest future research in this subgroup of depressed patients.

Key words: Depression, Adverse Childhood Experiences, Trauma Informed Care

INTRODUCTION

During the last 30 years, significant evidence has been gathered about consequences of Adverse Childhood Experiences (ACEs) in mental & physical health in life.⁽¹⁾

In mental health, ACEs are a risk factor for the development of most prevalent pathologies,^(2, 3) associated to a more complex/severe clinic case with no therapeutic response.^(2,3) However, this knowledge has not been included in usual clinical practice.⁽⁴⁾

In Chile, depression has a guaranteed health treatment(GES)⁽⁵⁾ There is national evidence about a subtype of depressive patients with a background of ACEs⁽⁶⁾ which, according to current knowledge would require a differentiated approach^(2, 3)

Results from the Adverse Childhood Experiences Study (ACES)⁽⁷⁾, the neurobiological findings derived from toxic stress during childhood⁽⁸⁾ and the Informed Patient's Care in Trauma (IPC)⁽⁹⁾ are a referential framework for the interventions.

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The objective of this work is to review the reference frameworks available, in order to lead clinical practice and investigation in a subgroup of depressive patients with a ACEs background as patients of our Health Services.

Adverse Childhood Experiences Study (Aces)

Between 1995 to 1998, Kaiser Health Institution, from San Diego, California, in cooperation with the Centers for Control and Prevention of Diseases of the Federal Government, USA, developed the ACES.⁽⁷⁾ This study investigated the correlation between medical records from more than 17,000 adults and a retrospective questionnaire of 10 ACEs: 5 on child abuse (physical/emotional/sexual abuse, emotional/physical negligence) and 5 on family dysfunction (mother victim of violence, substance abuse at home, person with a mental illness at home, separation or divorce of parents and imprisonment of one member of the family).⁽⁷⁾

ACEs findings turned out to be amazing. Two thirds of the participants, most of them Caucasian, middle class and with college studies reported to have been exposed, at least, to 1 ACE. (10) Besides, the number of ACEs is positively correlated with chronic biomedical pathologies (ischemic heart disease, cancer, EBOC, musculoskeletal diseases, hepatothies, increasing hospitalizations) and mental illnesses (depression, suicidal attempt, anxiety, post-traumatic stress disorders, drugs abuse, personality disorders and oppositional disorder).⁽⁷⁾ Besides, report on ACEs is associated to risk health conducts (alcoholism, drugs abuse, suicidal attempt, smoking habits, low perception of health, in general, sexually transmitted diseases (stds), obesity). Finally, people who reported 6 or more ACEs died, as an average, 20 years before than people with no ACEs.^(7, 11)

ACES has provided more than 70 scientific articles and has been replicated in countries, such as Philippines,⁽¹²⁾ England,⁽¹³⁾ Canada,⁽¹⁴⁾ Eastern Europe,⁽¹⁵⁾ and Saudi Arabia,⁽¹⁶⁾ which have been summarized in a systematic review and recent meta-analysis.⁽¹⁷⁾

Toxic Stress

Severe consequences of the ACEs are understood if we consider the effects of toxic stress during childhood-^(18, 19) Stress is the biological response of our body before danger.^(20, 21) When a threat is detected, the sympathetic nervous system is activated, thus releasing catecholamines, and the hypothalamic-pituitary-adrenal axis, resulting in release of vasopressin and cortisol.⁽²⁰⁾ This multiple activation allows the body to adapt to danger by means of responses to fighting, running away or getting frozen, followed by a quick deactivation once danger is gone.⁽²⁰⁾ However, if the exposure to a threat (whether real or imagination) is very intense and/or prolonged, the biological response is no longer adaptative and becomes neurotoxic,⁽²²⁾ thus increasing the risk of chronic diseases, such as cardiovascular disease,⁽²³⁾ which seems to be at the base of the so called "social gradient in health", that explains the increased prevalence of chronic diseases on low socioeconomic level people.^(24, 25)

Even though during childhood modulated exposure to psychosocial stressors is fundamental for development, at that stage children are more vulnerable to develop non regulated biological responses to stress, depending on variables, such as constitution and early relationships.^(8, 19, 26) Some studies made on animals and humans have identified genetic and epigenetic factors explaining this individual variability.⁽²⁶⁻²⁸⁾ There is also evidence about the fundamental role of parental care on regulating biological responses before stress on cubs.^(26, 29)

Toxic stress in children deal with biological disorders caused by exposure to one or various intense/permanent stressors (among which ACEs are included) without proper protection of an adult.^(18, 19) Among various consequences are: excessive release of cortisol and neuro-hormones, altered regulation of neuro-immune-endocrine systems and on cerebral neuro transmission, increase of the proinflammatory cytokines (such as c reactive protein), and structural changes en prefrontal cortex, tonsils and hippocampus.^(3, 30)

These neurobiological findings allow to understand how ACEs are a risk factor for developing disorders, emotional deregulation and neurocognitive problems during childhood.^(31, 32) In future stages in life, ACEs, mediated by

epigenetic factors, predispose the development of metabolic chronic/cardiovascular/autoimmune/mental diseases, and deregulated responses before new stressful situations (Figure 1).^(30, 33, 34)

Informed Patient'S Care In Trauma (Ipc)

CIT is a emerging paradigm oriented to the integral assistance of people who have a history of traumas⁽³⁵⁾ promoting understanding of the response to the traumatic impact, emphasizing on physical/psychological/emotional safety, both for providers and for people affected, and creates opportunities for the survivors to be able to build a sense of control and empowerment.^(9, 36) The CIT tries to provide an answer to the survivors of psychological traumas, who historically have not been assisted, not considered and even re-traumatized in assistance contexts.⁽³⁷⁾

The origin of the CIT starts back in the 1990s, when various studies in USA found in women with severe psychopathologies and drug addiction a high prevalence of sexual/physical traumas (above 90%), considered as normal episodes by the same consultants. In many cases, these were never investigated by the providers and even more, women were retraumatized by the same providers or Health Systems when they were searching for help^(38, 39)

CIT boosts a perspective from which current symptoms are understood as manifestations of a response before a past adversity that currently is not adaptative any more.⁽⁴⁰⁾ This involves a change in the interview, from "¿what is going?" (i.e., "¿what is your problem?") to a compassionate questioning by using "¿what happened to you?"⁽⁴¹⁾ and a change from a assistance system which lives back the trauma to one aimed to avoid re-traumatization.⁽³⁷⁾

The Substance Abuse and Mental Health Services Administration (SAMHSA) leads inclusion of this model in its organizational policies.⁽³⁶⁾ Figure 2 summarizes the CIT principles, according to a recent review⁽⁴²⁾, based on the previous works performed by Elliott and cols.⁽⁴³⁾ There are some guidelines as well regarding its implementation by a general practitioner⁽⁹⁾

CIT emphasizes autonomy of the patient and

recognition of resilience^(43,44) as a fundamental factor explaining capabilities of human beings to overcome and even to develop psychological growth after being exposed to traumatic situations.^(45, 46) Being this an emerging paradigm, its practice is not very extended yet and the evidence regarding results of the intervention is still limited.^(37, 47)

Complex Depressive Subtype Associated To Aces: National Evidence

There is enough evidence proving that ACEs are a risk factor for the development of depression associated to higher psychiatric comorbidity, suicidal ideation, recurrence and therapeutical refractoriness.⁽⁴⁸⁻⁵²⁾ These findings are still neither integrated in the psychiatric nosology nor in current clinical guidelines.^(4, 5)

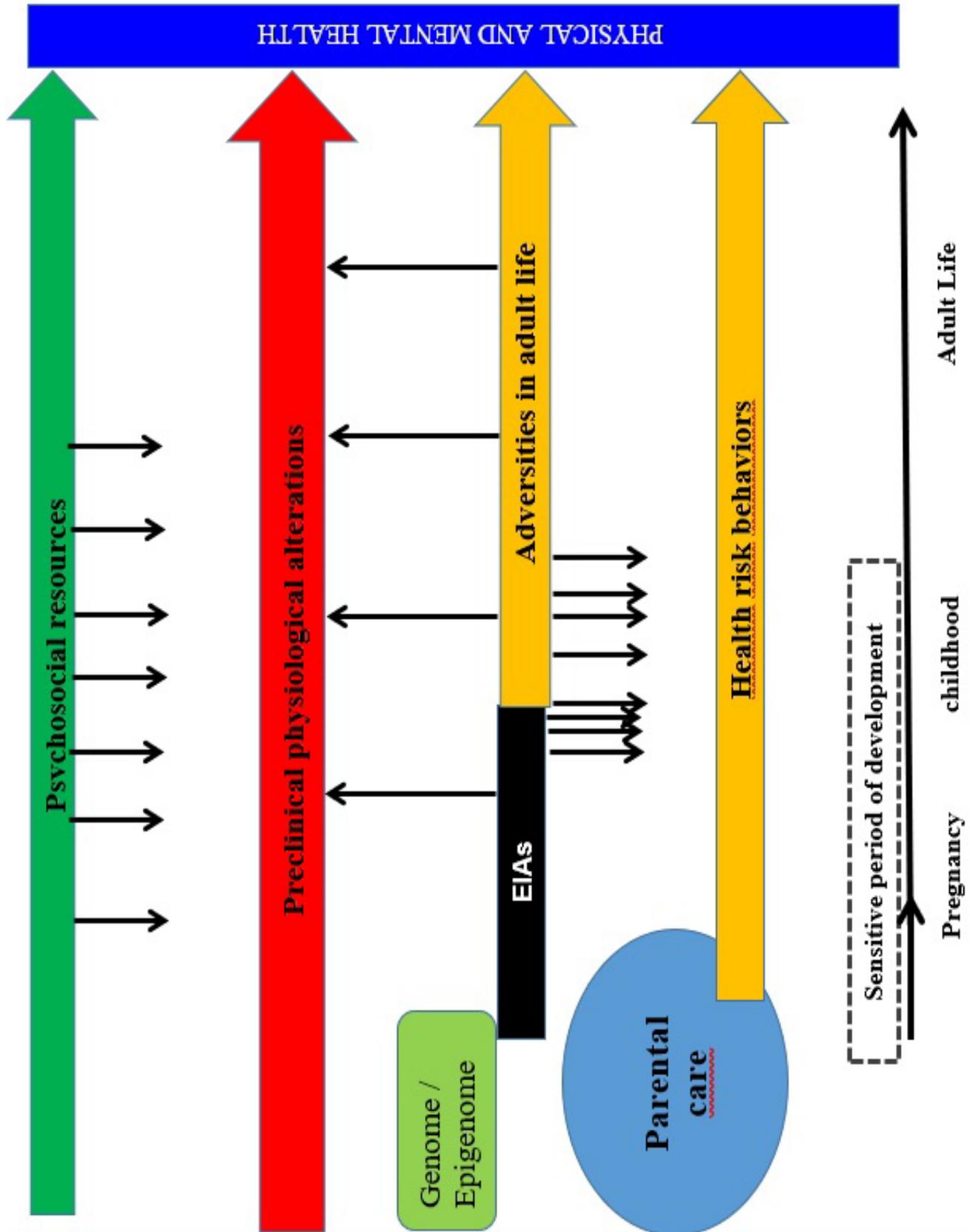
An approach to clinical understanding of depressive patients and ACEs may be extrapolated from nosology, that has been recently included in the International Classification of Diseases, 11th Review, of the post-traumatic stress disorder (PTSD)⁽⁵³⁾. This diagnosis is a clinically differentiated subtype of (PTSD) where the three classic symptoms are added to emotional deregulation, negative self concept and interpersonal problems.⁽⁵⁴⁾ Other studies have documented higher prevalence of this diagnosis against traditional (PTSD), increasing risk of suicidal ideation and higher psychiatric comorbidity.⁽⁵⁵⁾

The (PTSD)-C arises in relation with the so called complex traumas, featured as they are multiple, chronic and interpersonal, such as the ACEs.⁽⁵⁴⁾ Patients with (PTSD)-C do not respond to treatments validated for classic (PTSD). As per evidence and expert opinion, approach of emotional and interpersonal compromised areas must be prioritized in (PTSD)-C.⁽⁵⁶⁻⁵⁸⁾

Even though (PTSD) is the most studied pathology regarding trauma, it is metaphorically speaking, just the tip of the iceberg regarding syndromes associated to trauma, ranging from psychosis to personality disorders, to mood disorders and eating disorders⁽⁵⁹⁻⁶²⁾ Among them we highlight depressive disorders, which in the population have a double prevalence than (PTSD).⁽⁶³⁾

According to the logics of the (PTSD)-C

Figure 1. The EIAs-Health Nexus



Sciolla, 2016

Figure 2. Summary Of Cit Statements

To recognize the correlations between Trauma and physical health, and also the various clinical manifestations of trauma.	To limit traumatic histories from happening again among professionals
To adopt a wide definition on trauma, beyond post trauma stress (social traumas and multiple traumas)	To move forward towards cooperation relationships
To facilitate queries about trauma with sensitivity and knowledge.	To adopt approaches based on models restating symptoms as and adaptation before confrontation
To refer people who deserve it to Center providing specific support evidence-based trauma,	To prioritize emotional/physical safety for assisting both suppliers and users
To address indirect trauma and avoid re trauma.	To work cooperatively with trauma survivors.

with respect to classic (PTSD) and considering clinical evidence patients with depression and ACEs have,⁽⁶⁴⁾ we arrive at the conclusion of complex depression nosology. Just like patients with (PTSD)-C, these patients should have a differentiated approach.⁽⁶⁴⁾

En Chile, just like all over the world, depression is a prevalent/chronic/ disabling illness, which from 2016 has a guaranteed treatment (GES)⁽⁵⁾. Clinical guidelines provides search recommendations, diagnosis and treatment at the various levels of assistance.^(5, 29, 65)

In studies performed in the VII Region, our teams have evidenced that ACEs are reported between 60% to 80% among people asking assistance on mental health problems.⁽⁶⁶⁾ Recently, in a sample of 394 depressive patients being treated in 8 PHS Primary Care Units of the VII Region, the ACEs were associated to higher depressive severity, suicidal ideation, recurrence, psychiatric comorbidity and lower remission per year of observation.^(6, 48, 49, 67) These results confirm in the Chilean population that international evidence proves that ACEs background are associated to clinical depression of a higher complexity and severity.

A recent analysis of latent classes, performed on the same sample made on 394

patients (presented before the World Congress of Psychiatry 2019), evidenced that a third of the people belonged to a class with a suicidal attempt record, higher depressive severity, suicidal ideation with no current attempt, history of ACEs, psychiatric comorbidity and violence in couples. These results suggest that ACEs are present in a differentiated depressive clinical subtype showing a higher severity. If properly recognized these patients could receive the benefits of an approach including managing depression with the knowledge of the impact of the psychological trauma, just as proposed by CIT.

Complex Depressive Subtype In Ges Context: Suggestions For Inclusion Of Cit

In a Public Health context, PHS is the first assistance instance for the recognition of clinical consequences on people exposed to psychological trauma, where most cases of depression are solved in GES context.^(5, 68) However, applying a universal screening of ACEs in PHS is something under discussion.^(69, 70) It is well known that general practitioners, both practitioners as interns, are not well trained to address the traumatic experiences of their patients⁽⁷¹⁻⁷³⁾ and spontaneous revelation of ACEs in medical practice is low⁽⁷⁴⁾,

Figure 3. Cit In Health Context



[iii] Raja, S., Hasnain, M., Hoersch, M., Gove-Yin, S., Rajagopalan, C. & Kruthoff, M. <https://www.ahrq.gov/ncepcr/tools/healthier-pregnancy/fact-sheets/trauma.html>

although patients would wish these data to be investigated.⁽⁷⁵⁾

Active search for ACEs could facilitate revelations, but this also implies the risk to favor re-traumatization.⁽⁶⁹⁾ According to Raja, recognizing people with traumatic background in a medical context may become a sort of pyramid (Figure 3), whose base is knowledge on trauma and skills development for an effective patient-physician communication.⁽⁹⁾

In clinical practice, the authors have observed that recognition of ACEs in adults asking for assistance on emotional symptom at PHS, allows to have a better understanding and reformulation of the reason for current advice, which in many cases is a therapeutic exercise by itself.⁽⁶⁶⁾

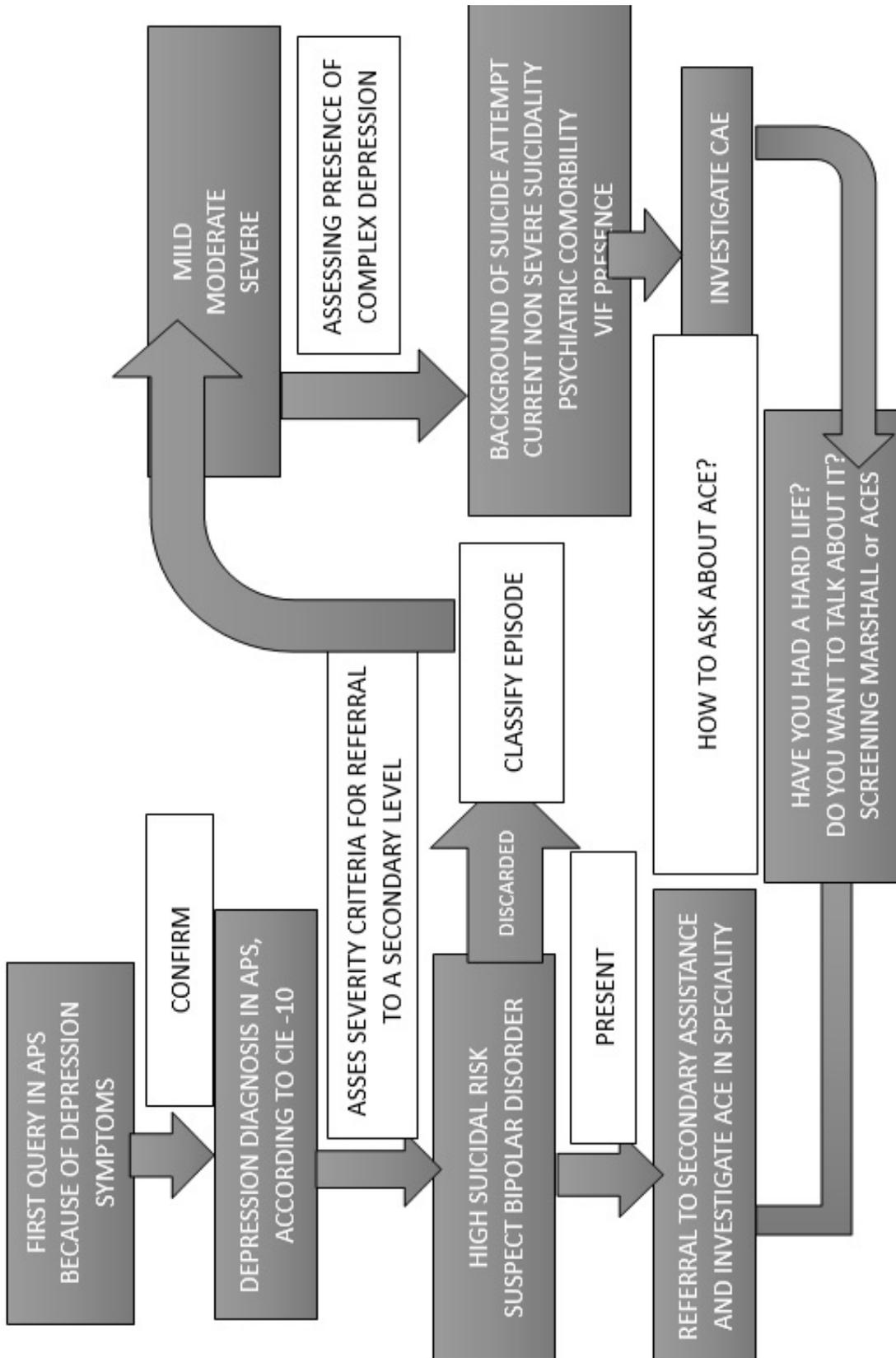
Figure 4 shows some suggestions on how and when to include an active search of ACEs in the GES context of depression in PHS. Considering that current Guidelines recommend that patients with current suicidal attempts, suspected bipolarity and/or psychotic symptoms are taken to a specialist, our suggestion is that in this group ACEs are investigated by a specialized team. In this way, directed search of ACEs at PHS should be made on those users who will

continue with their treatment at PHS, with priority for those patients who have psychiatric comorbidities, suicidal ideation, history of VIF and other interpersonal disorders and, if possible, in a multi professional interview aimed to minimize the risk of re-traumatization. It is important to consider patient's autonomy regarding this research and the usefulness he/she thinks it has.

Among the suggestions to open search of ACEs is the initial idea of open questions regarding history and screening which allows to guide the questions. We also recommend to include, in a regular basis, questions about resilience, such as support networks, protective figures during childhood and confrontation styles.

From the CIT, the knowledge on trauma consequences Health teams should have facilitates acquiring skills to properly assist patients with traumatic history. For instance, it is well known that non processed traumatic experiences are symbolically stores as emotional moods which may be activated as a response to stimuli other than the primary trauma.⁽⁷⁶⁾ This is how in patients who do not spontaneously reveal their ACEs, some signals (lack of visual

Figure 4. Search Algorithm For Eias In The Ges Context Of Depression



contact, unrest, hyperactivity when closeness appears, extreme sensitivity to certain verbal/paraverbal expressions of the provider, etc.) could suggest a traumatic history.⁽³⁷⁾

Specifically, suicidal ideation evidenced on people with depression and traumatic history could be considered as an extreme clinical behavior of emotional deregulation, and possibly could reactivate a traumatic experience correlated with a current situation of stress⁽⁷⁷⁾ To show the patient that suicidal ideation may be related with difficulties to discriminate present from the traumatic past and to focus on not repeating a malfunctional link pattern which re evoke a victim-aggressor relationship are a clinical practice with evidence and could be useful to control suicidal ideation in these patients.^(78, 79,80)

The statements represent a preliminary proposal and a guide aimed to facilitate detection, provide orientation in the investigation and to optimize assistance for a relevant subgroup of patients who seeks depression assistance in our area which, according to current knowledge, requires differentiated intervention.

FINAL DISCUSSION

In Chile, according to Unicef, child maltreatment reaches 73.6% of all children under 16 and estimated prevalence of sexual abuse range range between 8 to 10%.^(81,82) On the other hand, data of general population state that domestic violence affects between 41 to 50% of women in Chile once in their lives and, at PHS, between 15-22% during the last year.⁽⁸³⁾ We still do not have data from representative samples which include frequency with which children are exposed to other IAs, such as bullying or to grow with a relative in prison who abuse of substances or has a mental illness. If consequences of the ACEs on health in life span are confirmed in Chile, the knowledge arising from trauma investigation and the CIT statements could become the pillars of a more understanding intervention, strategically aimed to address not only depressive patients, but all patients requiring assistance, with high prevalence of chronic biomedical pathologies. Therefore these topics could be included in the subjects of a Health related career.^(84, 85)

Considering interpersonal violence of our society,⁽⁸⁶⁾ it is a priority to open ways for training and investigation in order to provide proper and timely answers in health services.

REFERENCES

1. Felitti VJ, Anda RF. The relationship of adverse childhood experiences to adult health, well-being, social function, and health care. In: Lanius RA, Vermetten E, Pain C, editors. *The effects of early life trauma on health and disease: The hidden epidemic* New York, NY: Cambridge University Press; 2010.
2. Teicher MH, Samson JA. Childhood Maltreatment and Psychopathology: A Case for Ecophenotypic Variants as Clinically and Neurobiologically Distinct Subtypes. *Am J of Psychiatry* 2013;170(10):1114-33.
3. Nemeroff Charles B. *Paradise Lost: The Neurobiological and Clinical Consequences of Child Abuse and Neglect*. *Neuron*. 2016;89(5):892-909.
4. van der Kolk B. Commentary: The devastating effects of ignoring child maltreatment in psychiatry – a commentary on Teicher and Samson 2016. *J of Child Psych and Psychiatry*. 2016;57(3):267
5. Salvo G L. Magnitud, impacto y estrategias de enfrentamiento de la depresión, con referencia a Chile. *Rev Med de Chile*. 2014;142:1157-64.
6. Vitriol V, Cancino A, Leiva-Bianchi M, Serrano C, Ballthisros S, Potthoff S, et al. Depresión adulta y experiencias infantiles adversas: evidencia de un subtipo depresivo complejo en consultantes de la atención primaria en Chile. *Rev Med Chile*. 2017;145:1145-53.
7. Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *Am J Prev Med*. 1998;14(4):245-58.

8. Shonkoff JP, Garner AS, Siegel BS, Dobbins MI, Earls MF, McGuinn L, et al. The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*. 2012;129(1):e232-e46.
9. Raja S, Hasnain M, Hoersch M, Gove-Yin S, Rajagopalan C. Trauma informed care in medicine: current knowledge and future research directions. *Fam Community Health*. 2015;38(3):216-26.
10. Anda RF, Felitti VJ, Bremner JD, Walker JD, Whitfield C, Perry BD, et al. The enduring effects of abuse and related adverse experiences in childhood. *Eur Arch of Psych and Clin Neuroscience*. 2006;256(3):174-86.
11. Brown DW, Anda RF, Tiemeier H, Felitti VJ, Edwards VJ, Croft JB. Adverse childhood experiences and the risk of premature mortality. *Am J Prev Med*. 2009;37.
12. Ramiro LS, Madrid BJ, Brown DW. Adverse childhood experiences (ACE) and health-risk behaviors among adults in a developing country setting. *Child Abuse Negl*. 2010;34.
13. Bellis MA, Lowey H, Leckenby N, Hughes K, Harrison D. Adverse childhood experiences: retrospective study to determine their impact on adult health behaviours and health outcomes in a UK population. *J Public Health*. 2013;36(1):81-91.
14. Chartier MJ, Walker JR, Naimark B. Health risk behaviors and mental health problems as mediators of the relationship between childhood abuse and adult health. *Am J Public Health*. 2009;99(5):847-54.
15. Bellis MA, Hughes K, Leckenby N, Jones L, Baban A, Kachaeva M. Adverse childhood experiences and associations with health-harming behaviours in young adults: surveys in eight eastern European countries. *Bull World Health Organ*. 2014;92.
16. Almuneef M, ElChoueiry N, Saleheen H, Al-Eissa M. The impact of Adverse Childhood Experiences on social determinants among Saudi adults. *J Public Health*. 2017;40(3):219-27.
17. Hughes K, Bellis MA, Hardcastle KA, Sethi D, Butchart A, Mikton C, et al. The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet Public Health*. 2017;2(8):e356-e66.
18. Teicher MH, Samson JA, Anderson CM, Ohashi K. The effects of childhood maltreatment on brain structure, function and connectivity. *Nat Rev Neurosci*. 2016;17:652.-62
19. Bucci M, Marques SS, Oh D, Harris NB. Toxic Stress in Children and Adolescents. *Adv Pediatr*. 2016;63(1):403-28.
20. Duval F, González F, Rabia H. Neurobiología del estrés. *Rev Chil Neuropsiquiatría*. 2010;48:307-18.
21. Schneiderman N, Ironson G, Siegel SD. Stress and Health: Psychological, Behavioral, and Biological Determinants. *Ann Rev Clin Psychol*. 2005;1(1):607-28.
22. Lupien SJ, Juster R-P, Raymond C, Marin M-F. The effects of chronic stress on the human brain: From neurotoxicity, to vulnerability, to opportunity. *Frontiers in Neuroendocrinology*. 2018;49:91-105.
23. Kivimäki M, S(ptsd)oe A. Effects of stress on the development and progression of cardiovascular disease. *Nat Rev Cardiol*. 2017;15:215.
24. Chen E, Miller GE. Socioeconomic status and health: mediating and moderating factors. *Annu Rev Clin Psychol*. 2013;9:723-49.
25. Baum A, Garofalo JP, Yali AM. Socioeconomic Status and Chronic Stress: Does Stress Account for SES Effects on Health? *Ann New York Acad Sciences*. 1999;896(1):131-44.
26. Martínez M, García MC. Implicaciones de la crianza en la regulación del estrés. *Rev Latinoam Ciencias Soc, Niñez y Juv*. 2011;9(2):535-45.

27. Claessens SEF, Daskalakis NP, van der Veen R, Oitzl MS, Kloet ER, Champagne DL. Development of individual differences in stress responsiveness: an overview of factors mediating the outcome of early life experiences. *Psychopharmacology*. 2011;214(1):141-54.
28. Zhang TY, Labonté B, Wen XL, Turecki G, Meaney MJ. Epigenetic Mechanisms for the Early Environmental Regulation of Hippocampal Glucocorticoid Receptor Gene Expression in Rodents and Humans. *Neuropsychopharmacology*. 2013;38(1):111-23.
29. Meaney MJ. Maternal Care, Gene Expression, and the Transmission of Individual Differences in Stress Reactivity Across Generations. *Ann Rev Neurosci* 2001;24(1):1161-92.
30. Nusslock R, Miller GE. Early-Life Adversity and Physical and Emotional Health Across the Lifespan: A Neuroimmune Network Hypothesis. *Biol Psychiatr*. 2016;80(1):23-32.
31. Bick J, Nelson CA. Early Adverse Experiences and the Developing Brain. *Neuropsychopharmacology*. 2016;41(1):177-96.
32. Oh DL, Jerman P, Silvério Marques S, Koita K, Purewal Boparai SK, Burke Harris N, et al. Systematic review of pediatric health outcomes associated with childhood adversity. *BMC Pediatrics*. 2018;18(1):83.
33. Lang J, McKie J, Smith H, McLaughlin A, Gillberg C, Shiels PG, et al. Adverse childhood experiences, epigenetics and telomere length variation in childhood and beyond: a systematic review of the literature. *Europ Child & Adolesc Psychiatry*. 2019.
34. Hao G, Youssef NA, Davis CL, Su S. The role of DNA methylation in the association between childhood adversity and cardiometabolic disease. *International J of Cardiol*. 2018;255:168-74.
35. Sciolla AF. An Overview of Trauma-Informed Care. *Trauma, Resilience, and Health Promotion in LGBT Patients*: Springer; 2017. p. 165-81.
36. Administration SAaMHS. SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2014.
37. Reeves E. A Synthesis of the Literature on Trauma-Informed Care. *Issues Ment Health Nurs* 2015;36(9):698-709.
38. Goodman THE, Dutton MA, Harris M. Episodically homeless women with serious mental illness: Prevalence of physical and sexual assault. *Am J of Orthopsychiatry*. 1995;65(4):468-78.
39. Lipschitz DS KM, Sorkenn JB, Faedda GL, Chorney P, Asnis GM. Prevalence and characteristics of physical and sexual abuse among psychiatric outpatients. *Psychiatr Serv*. 1996;47(2):189-91.
40. Hopper EK, Bassuk THE, Olivet J. Shelter from the storm: Trauma-informed care in homelessness services settings. *The Open Health Services and Policy Journal*. 2010;3(2):80-100.
41. Bloom SL, Farragher BJ. Restoring sanctuary : a new operating system for trauma-informed systems of care. Oxford: Oxford University Press; 2013. xviii, 314 p. p.
42. Sweeney A, Daggart D. (Mis) understanding trauma- informed approaches in mental health. *J Ment Health*. 2018; 5: 383-87
43. Elliott OF, Bjelajac P, Falloot RD, Markoff LS, Reed BG. Trauma-informed or trauma-denied: principles and implementation of trauma-informed services for women. *J of Community Psychology*. 2005;33(4):461-77.
44. Leitch L. Action steps using ACEs and trauma-informed care: a resilience model. *Health & Justice*. 2017;5(1):5.
45. Bonanno GA. Loss, trauma, and human

- resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American psychologist*. 2004;59(1):20.
46. Leiva-Bianchi M, Ahumada F, Araneda A, Botella J. What is the Psychosocial Impact of Disasters? A Meta-Analysis. *Issues in Mental Health Nursing*. 2018;39(4):320-7.
47. Purtle J. Systematic Review of Evaluations of Trauma-Informed Organizational Interventions That Include Staff Trainings. *Trauma, Violence, & Abuse*.0(0):1524838018791304.
48. Cancino A, Leiva-Bianchi M, Serrano C, Ballthisros-Teuber S, Caceres C, Vitriol V. Factors Associated with Psychiatric Comorbidity in Depression Patients in Primary Health Care in Chile. *Depress Research and Treatment*. 2018;2018:9.
49. Vitriol V, Cancino A, Serrano C, Ballthisros S, Potthoff S. Remission in Depression and Associated Factors at Different Assessment Times in Primary Care in Chile. *Clin Pract Epidemiol Ment Health*. 2018;14:78-88.
50. Zhong Q-Y, Wells A, Rondon MB, Williams MA, Barrios YV, Sanchez SE, et al. Childhood abuse and suicidal ideation in a cohort of pregnant Peruvian women. *Am J of Obstetrics and Gynecology*. 2016;215(4):501.e1-e8.
51. Nanni V, Uher R, Danese A. Childhood maltreatment predicts unfavorable course of illness and treatment outcome in depression: a meta-analysis. *Am J of Psychiatry*. 2014.
52. Thompson MP, Kingree JB, Lamis D. Associations of adverse childhood experiences and suicidal behaviors in adulthood in a U.S. nationally representative sample. *Child: Care, Health and Development*. 2019;45(1):121-8.
53. Karatzias T, Cloitre M, Maercker A, Kazlauskas E, Shevlin M, Hyland P, et al. PTSD and Complex PTSD: ICD-11 updates on concept and measurement in the UK, USA, Germany and Lithuania. *Europ J of Psychotraumatology*. 2017;8(sup7):1418103.
54. Brewin CR, Cloitre M, Hyland P, Shevlin M, Maercker A, Bryant RA, et al. A review of current evidence regarding the ICD-11 proposals for diagnosing PTSD and complex PTSD. *Clin Psychol Rev*. 2017;58:1-15.
55. Karatzias T, Hyland P, Bradley A, Cloitre M, Roberts NP, Bisson JI, et al. Risk factors and comorbidity of ICD-11 PTSD and complex PTSD: Findings from a trauma-exposed population based sample of adults in the United Kingdom. *Depression and anxiety*. 2019;36(9):887-94.
56. van der Kolk BA, Roth S, Pelcovitz D, Sunday S, Spinazzola J. Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *J of Traumatic Stress*. 2005;18(5):389-99.
57. Briere J, Scott C. Complex trauma in adolescents and adults: Effects and treatment. *Psychiatric Clinics*. 2015;38(3):515-27.
58. Classen CC, Muller RT, Field NP, Clark CS, Stern E-M. A naturalistic study of a brief treatment program for survivors of complex trauma. *J of Trauma & Dissociation*. 2017;18(5):720-34.
59. Gibson LE, Alloy LB, Ellman LM. Trauma and the psychosis spectrum: A review of symptom specificity and explanatory mechanisms. *Clin Psychol Rev*. 2016;49:92-105.
60. Carr CP, Martins CMS, Stingel AM, Lemgruber VB, Juruena MF. The Role of Early Life Stress in Adult Psychiatric Disorders: A Systematic Review According to Childhood Trauma Subtypes. *The Journal of Nervous and Mental Disease*. 2013;201(12):1007-20.
61. Agnew-Blais J, Danese A. Childhood maltreatment and unfavourable clinical outcomes in bipolar disorder: a systematic review and meta-analysis. *The Lancet Psychiatry*. 2016;3(4):342-9.

62. Trottier K, MacDonald OF. Update on Psychological Trauma, Other Severe Adverse Experiences and Eating Disorders: State of the Research and Future Research Directions. *Current Psychiatr Reports*. 2017;19(8):45.
63. Kessler RC, Chiu WT, Demler OR, Merikangas KR, Walters EE. Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatr*. 2005;62(6):617-27.
64. Saveanu RV, Nemeroff CB. Etiology of Depression: Genetic and Environmental Factors. *Psychiatr Clinics of North America*. 2012;35(1):51-71.
65. Chile MINSAL. Guía clínica AUGÉ: depresión en personas de 15 años y más. Autor, Subsecretaría de Salud Pública Santiago, Chile; 2013.
66. Vitriol V, Cancino A, Weil K, Salgado C, Asenjo MA, Potthoff S. Depression and Psychological Trauma: An Overview Integrating Current Research and Specific Evidence of Studies in the Treatment of Depression in Public Mental Health Services in Chile. *Depress Research and Treatment*. 2014;2014:10.
- 67 Vitriol V, Cancino A, Ballthisros S, Potthoff S, Serrano C. Factors associated with greater severity of depression in Chilean primary care patients. *Prim Care Companion CNS Disorder*. 2017; 19(3). doi:10.4088/PCC.16m02051.
68. Figueroa RA, Cortés PF, Accatino L, Sorensen R. Trauma psicológico en la atención primaria: orientaciones de manejo. *Revista médica de Chile*. 2016;144:643-55.
69. Finkelhor D. Screening for adverse childhood experiences (ACEs): Cautions and suggestions. *Child Abuse & Neglect*. 2017.
70. Sciolla AF. Screening for Childhood Adversities in Prenatal Care: What Works and Why. *J of Women's Health*. 2018;27(7):854-5.
71. Green BL, Kaltman S, Frank L, Glennie M, Subramanian A, Fritts-Wilson M, et al. Primary care providers' experiences with trauma patients: A qualitative study. *Psychological Trauma: Theory, Research, Practice, and Policy*. 2011;3(1):37.
72. Weinreb L, Fletcher K, Candib L, Bacigalupe G. Physicians' perceptions of adult patients' history of child abuse in family medicine settings. *The Journal of the American Board of Family Medicine*. 2007;20(4):417-9.
73. Tink W, Tink JC, Turin TC, Kelly M. Adverse Childhood Experiences: Survey of Resident Practice, Knowledge, and Attitude. *Fam Med*. 2017;49(1):7-13.
74. Weinreb L, Savageau JA, Candib LM, Reed GW, Fletcher KE, Hargraves JL. Screening for Childhood Trauma in Adult Primary Care Patients: A Cross-Sectional Survey. *Prim Care Companion to The J of Clinical Psychiatry*. 2010;12(6):PCC.10m00950.
75. Goldstein E, Athale N, Sciolla AF, Catz SL. Patient Preferences for Discussing Childhood Trauma in Primary Care. *The Permanente Journal*. 2017;21:16-055.
76. Van der Kolk BA. The body keeps the score: Memory and the evolving psychobiology of posttraumatic stress. *Harvard review of psychiatry*. 1994;1(5):253-65.
77. Lopez-Castroman J, Melhem N, Birmaher B, Greenhill L, Kolko D, Stanley B, et al. Early childhood sexual abuse increases suicidal intent. *World Psychiatry*. 2013;12(2):149-54.
78. Van der Kolk BA. The compulsion to repeat the trauma: Re-enactment, revictimization, and masochism. *Psychiatric Clinics of North America*. 1989;12(2):389-411.
- 79 Vitriol VG, Ballthisros ST, Florenzano RU, Weil KP, Benadof DF. Evaluation of an outpatient intervention for women with severe depression and a history of childhood trauma.

- Psychiatr Serv. 2009; 60(7): 936-42. doi: 10.1176/appi.ps.60.7.936.
80. Korotana LM, Dobson KS, Pusch D, Josephson T. A review of primary care interventions to improve health outcomes in adult survivors of adverse childhood experiences. *Clin Psychol Rev.* 2016; 46: 59-90. doi: 10.1016/j.cpr.2016.04.007
81. Larraín S, Bascuñán C. Maltrato infantil y relaciones familiares en Chile: Análisis comparativo. 1994-2000-2006. *Revista chilena de pediatría.* 2008;79:64-79.
82. UNICEF, Ministerio de Salud de Chile. Guía Clínica: Atención de niñas, niños y adolescentes menores de 15 años, víctimas de abuso sexual. Santiago Chile, 2020
83. León T, Grez M, Prato JA, Torres R, Ruiz S. Violencia intrafamiliar en Chile y su impacto en la salud: una revisión sistemática. *Revista médica de Chile.* 2014;142:1014-22.
84. Sciolla AF, Eckstrand K, Potter J. Integrating trauma-related curricular content into medical education and training. *Academic Medicine.* 2016;91(7):896-8.
85. Goldstein E, Murray-García J, Sciolla AF, Topitzes J. Medical Students' Perspectives on Trauma-Informed Care Training. *The Permanente journal.* 2018;22:17-126.
86. Pinto-Cortez C, Gutiérrez-Echegoyen P, Henríquez D. Child Victimization and Polyvictimization Among Young Adults in Northern Chile. *J Interp Viol .*0(0):0886260518759058.

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