

2019
IASR/AFSP
International Summit
on Suicide Research



American
Foundation
for Suicide
Prevention

October 27-30, 2019
Loews Miami Beach Hotel



International Academy
of Suicide Research

Can We Really Prevent Suicide?

Prof. Gil Zalsman MD, MHA

Director, Geha Mental Health Center

And Adolescent Day Unit

Sackler Faculty of Medicine

Tel Aviv University, Israel

&

Associate Research Scientist

Molecular Imaging and Neuropathology Division

Psychiatry Department

Columbia University, USA



International Academy
of Suicide Research

Jerusalem 2019



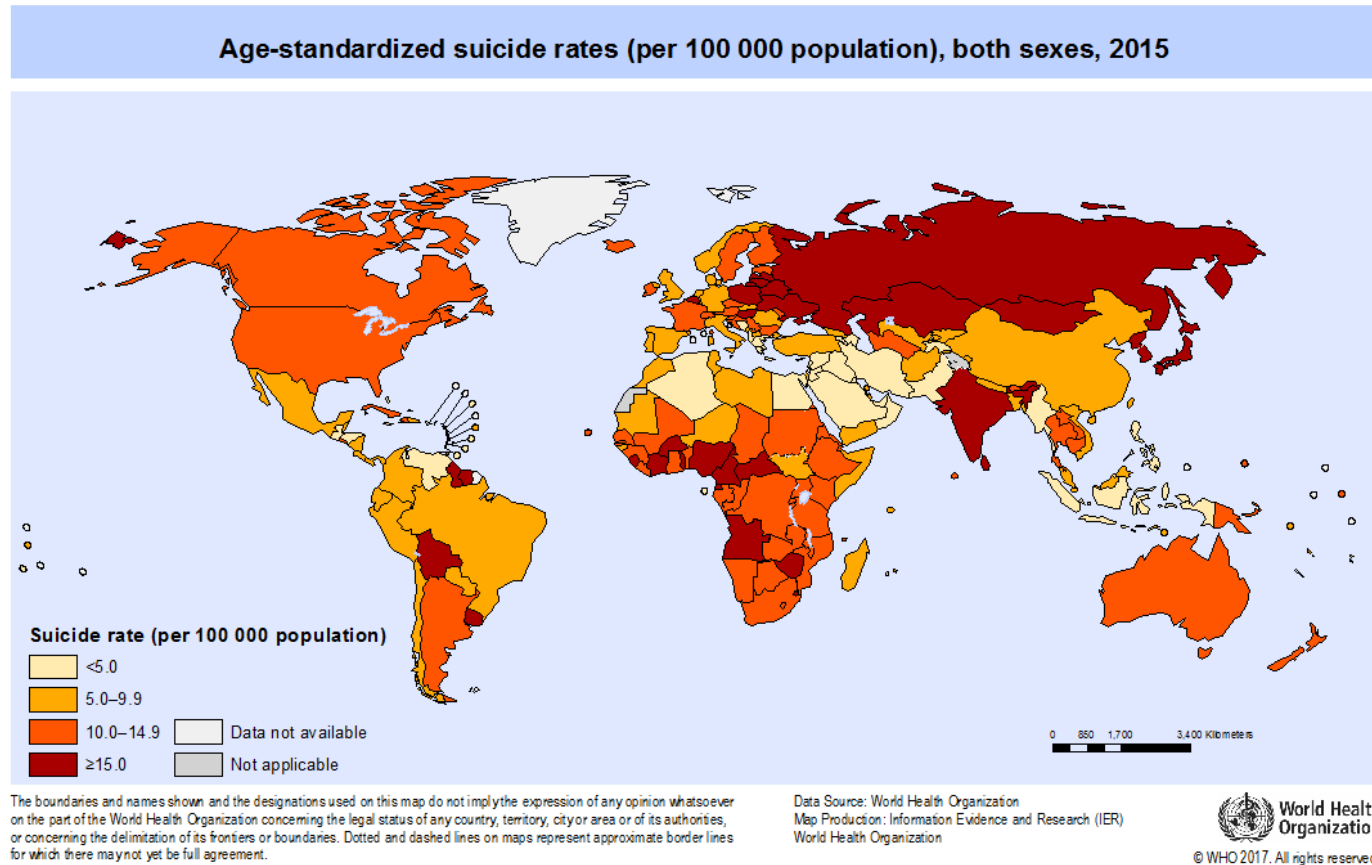
COLUMBIA UNIVERSITY
*College of Physicians
and Surgeons*

TEL AVIV UNIVERSITY

SACKLER FACULTY OF MEDICINE



900,000 suicides a year globally



10.7 per 100,000 globally (2017)

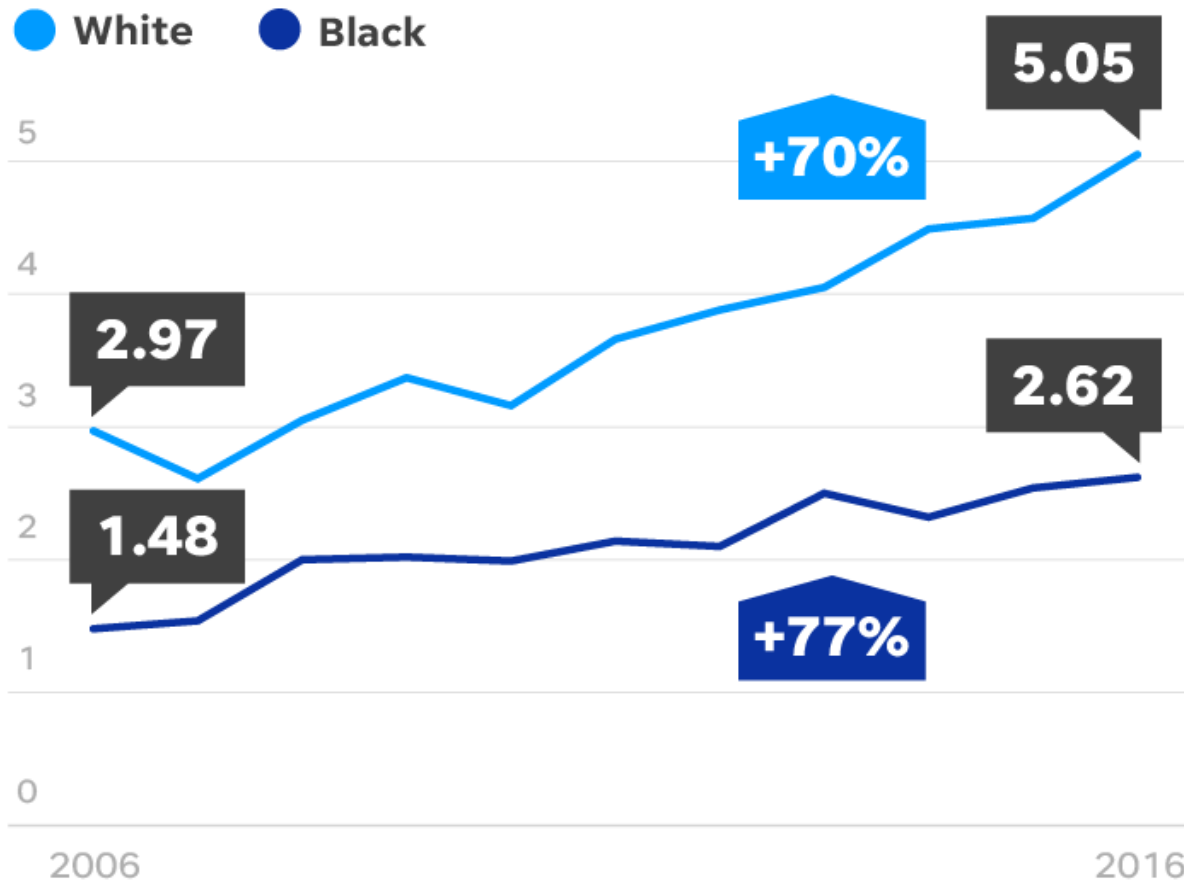
Sri Lanka highest 35.3

Barbados Lowest 0.4

Teen suicide is soaring. The biggest rate increase was among black youth



Suicides per 100,000 10-to-17 year-olds
from 2006 to 2016:



SOURCE Centers for Disease Control and Prevention
Karl Gelles/USA TODAY

Earlier onset of suicide

In the past decade suicide among 10-14y old children raised from 0.5 to 1.5 per 100K

Jobes BMJ 2012



The suicidal behavior spectrum

- Suicidal ideation
 - Aborted suicide attempt
 - Disrupted suicide attempt
 - Completed suicide
-
- NSSI=non suicidal self injury



NSSI during adolescence predicts later Suicide Attempts (HR=2)

NSSI during both before and after 18 years old predicts earlier SA in mood disorder subjects

Suicide and
Life-Threatening
BEHAVIOR

THE OFFICIAL JOURNAL OF THE
AMERICAN ASSOCIATION OF SUICIDOLOGY



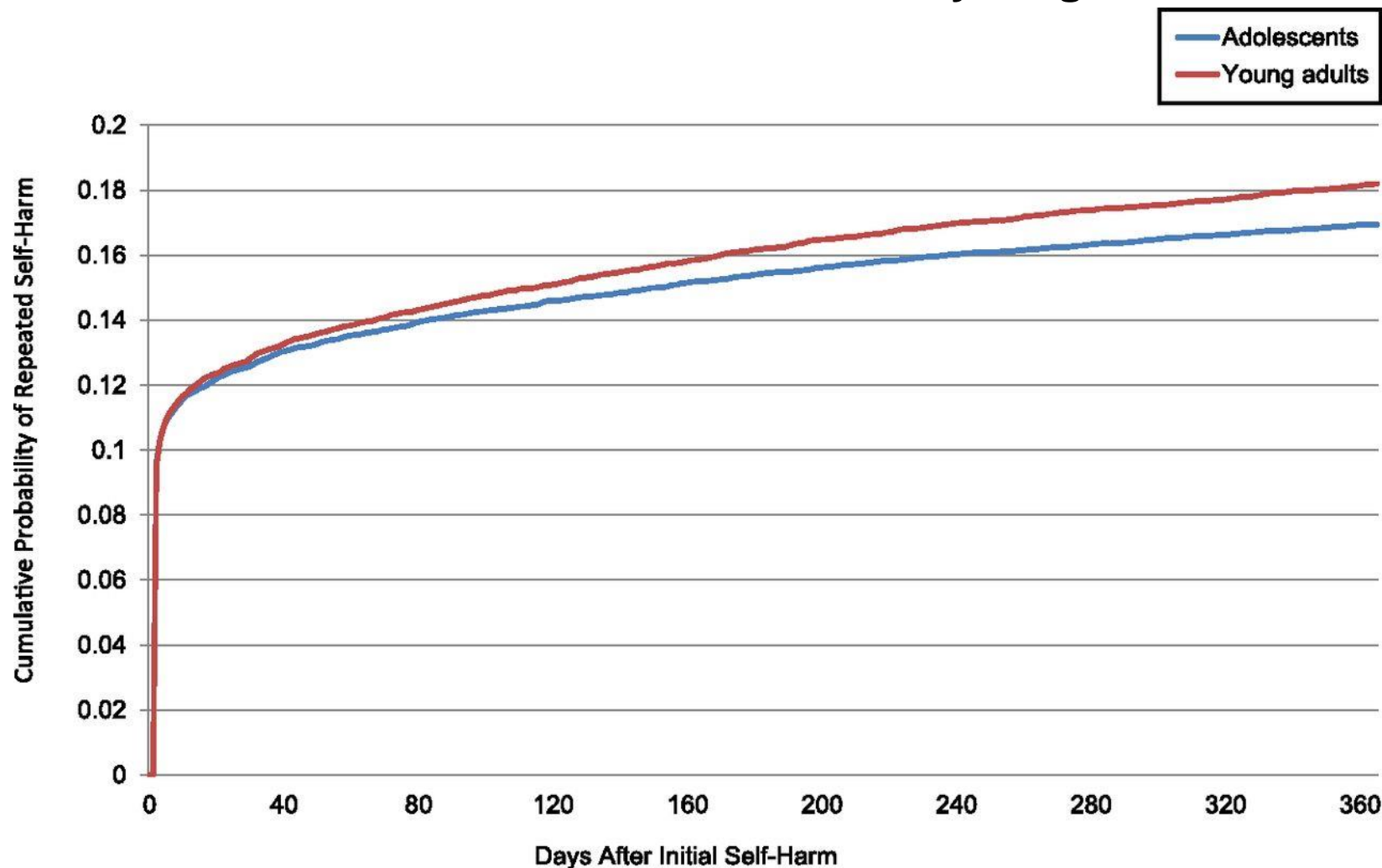
Suicide and Life-Threatening Behavior
© 2017 The American Association of Suicidology
DOI: 10.1111/sltb.12331

1

Nonsuicidal Self-Injury Is Predictive of Suicide Attempts Among Individuals with Mood Disorders

MEGAN S. CHESIN, PhD, HANGA GALFAVY, PhD, CEMILE CEREN SONMEZ, MA,
AMANDA WONG, MA, MARIA A. OQUENDO, MD, J. JOHN MANN, MD, AND
BARBARA STANLEY, PhD

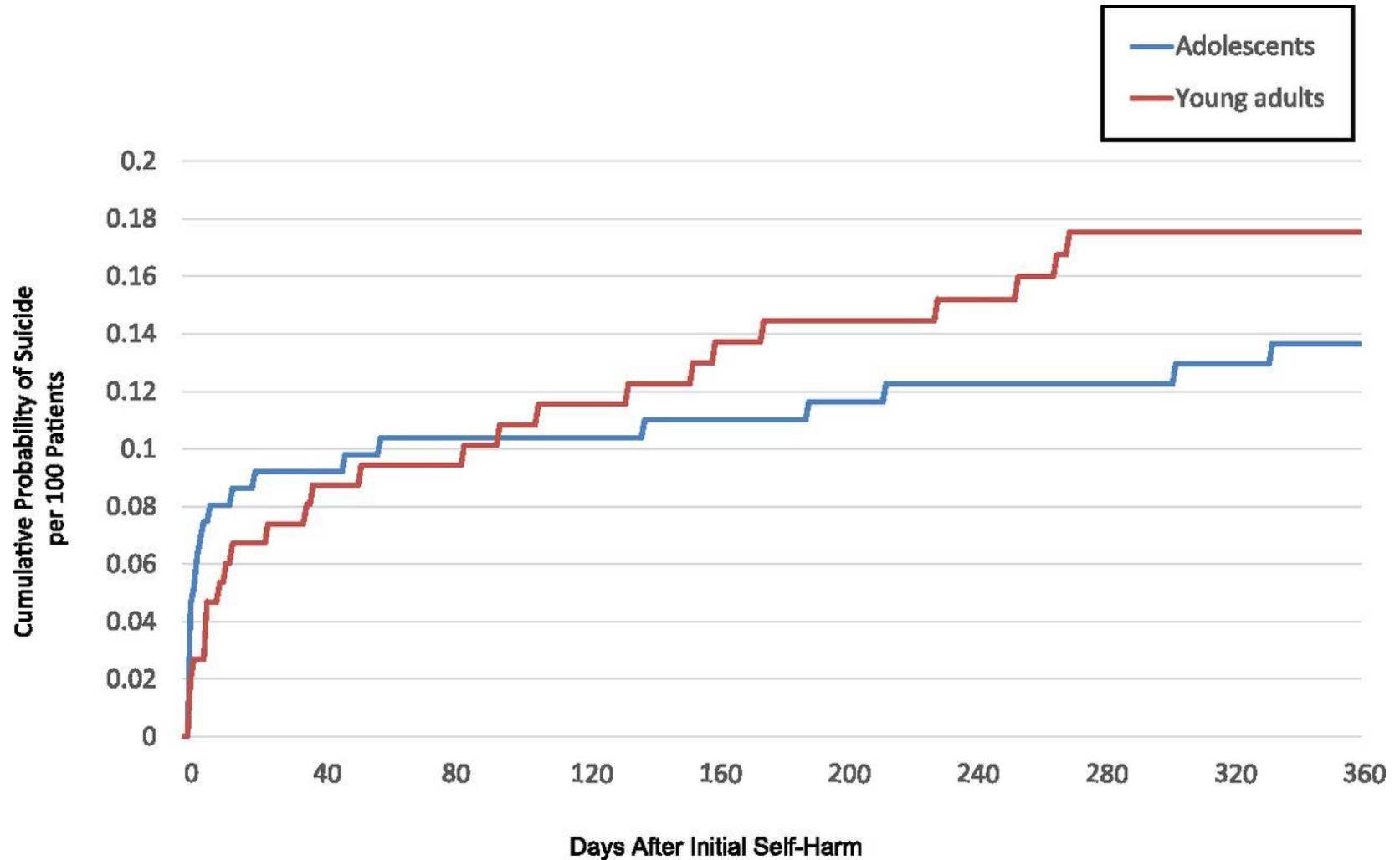
Cumulative probability of repeated self-harm during the 365 days after a self-harm event of adolescents and young adults.



Mark Olfson et al. Pediatrics 2018;141

PEDIATRICS[®]

Cumulative probability of suicide during the 365 days after a self-harm event of adolescents and young adults.



Mark Olfson et al. Pediatrics 2018;141

Always Interview both the parent and the adolescent



Eur Child Adolesc Psychiatry (2016) 25:1349–1359
DOI 10.1007/s00787-016-0862-1



ORIGINAL CONTRIBUTION

Maternal versus adolescent reports of suicidal behaviors: a nationwide survey in Israel

Gil Zalsman^{1,2,3} · Gal Shoval^{1,2} · Ivonne Mansbach-Kleinfeld^{4,5} · Ilana Farbstein^{6,7} ·
Rasim Kanaaneh⁶ · Gad Lubin⁴ · Alan Apter^{2,8}

■ Risk

Assessment

If you don't ask you don't know

- 90% of suicide victims suffered from a mental disorder
- 60% of suicide victims met their primary care physician in the month prior to suicide

Mann et al., JAMA, 2005

- Asking is not dangerous

Gould et al., JAMA 2006



Previous Attempt

- Previous suicide attempt is the single most powerful predictor of a future suicide

BUT...

- 50% of suicides (mainly males) will never attempt suicide before completing suicide



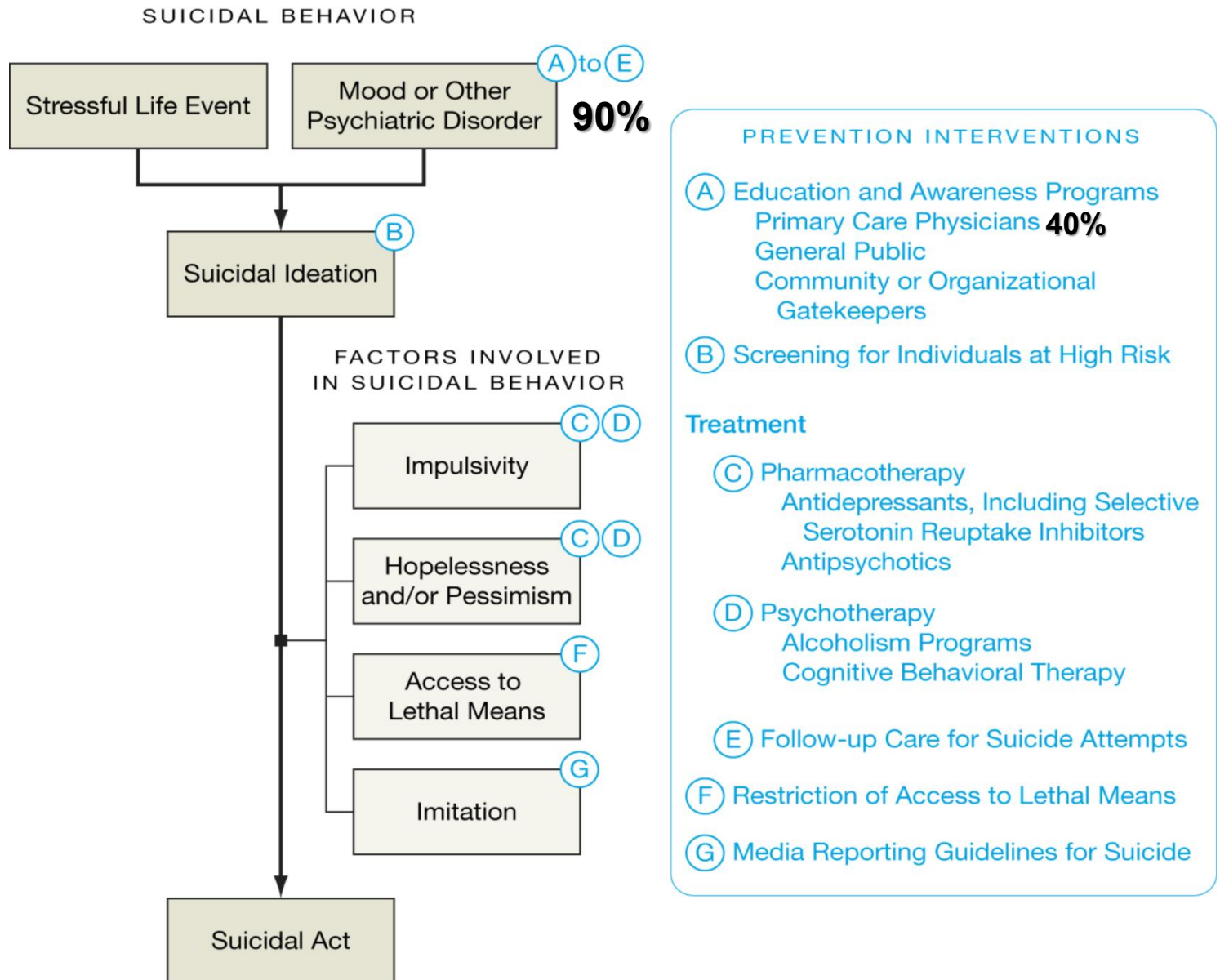
Risk Assessment-1

- Male!!! 4-5 times more!!!
- Previous suicide attempt
- Psychopathology (MDD X13)
- Early or untreated depression
- Acute stressor (X1.3, may be a result)
- Humiliation
- Bulling
- Living alone, loneliness
- No support system
- Immigration

Tx of the suicidal patient

- Restriction of means
- Observation and Safety plan
- No-suicide contract
- Effective early treatment of depression
- Specific psychotherapies (CBT-SP, DBT, IPT)
- Human compassion and true care
- Documentation!
- **Prevention** is better than treatment

Mann's stress-diathesis model



Mental pain as a mediator of suicidal tendency: A path analysis

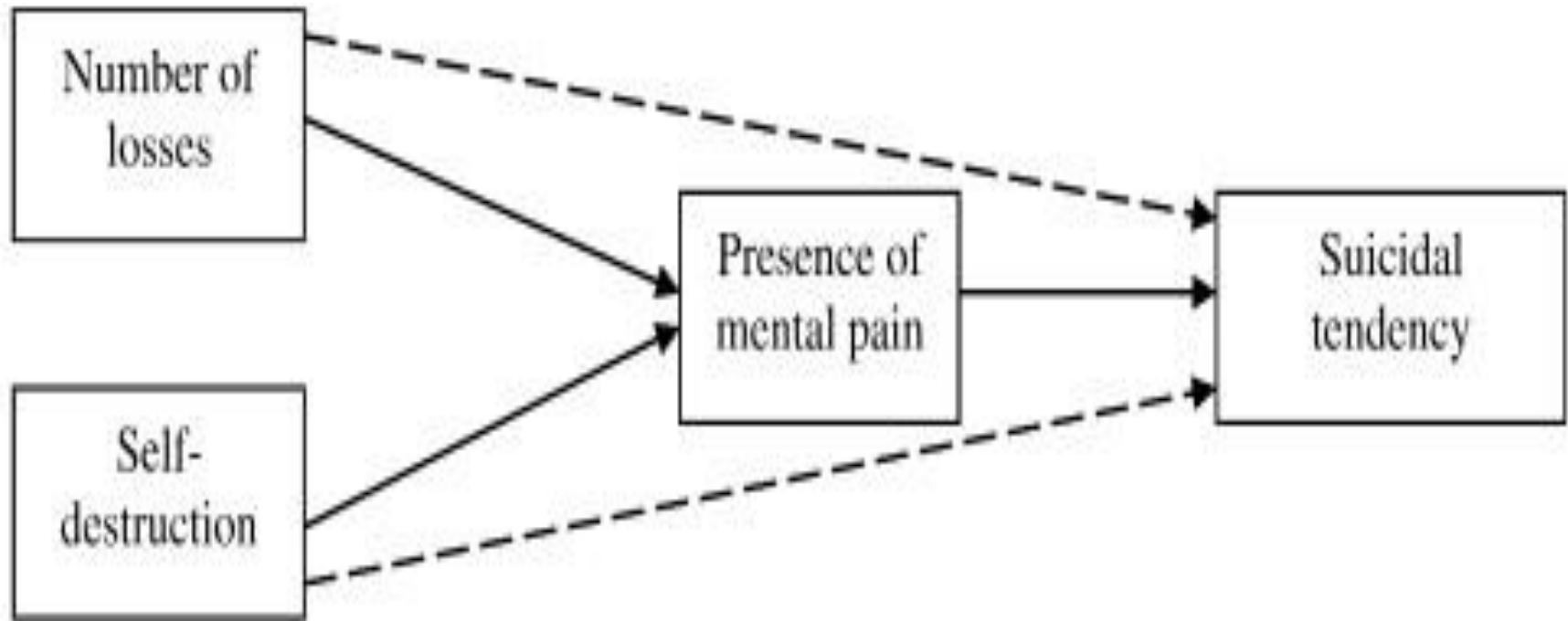
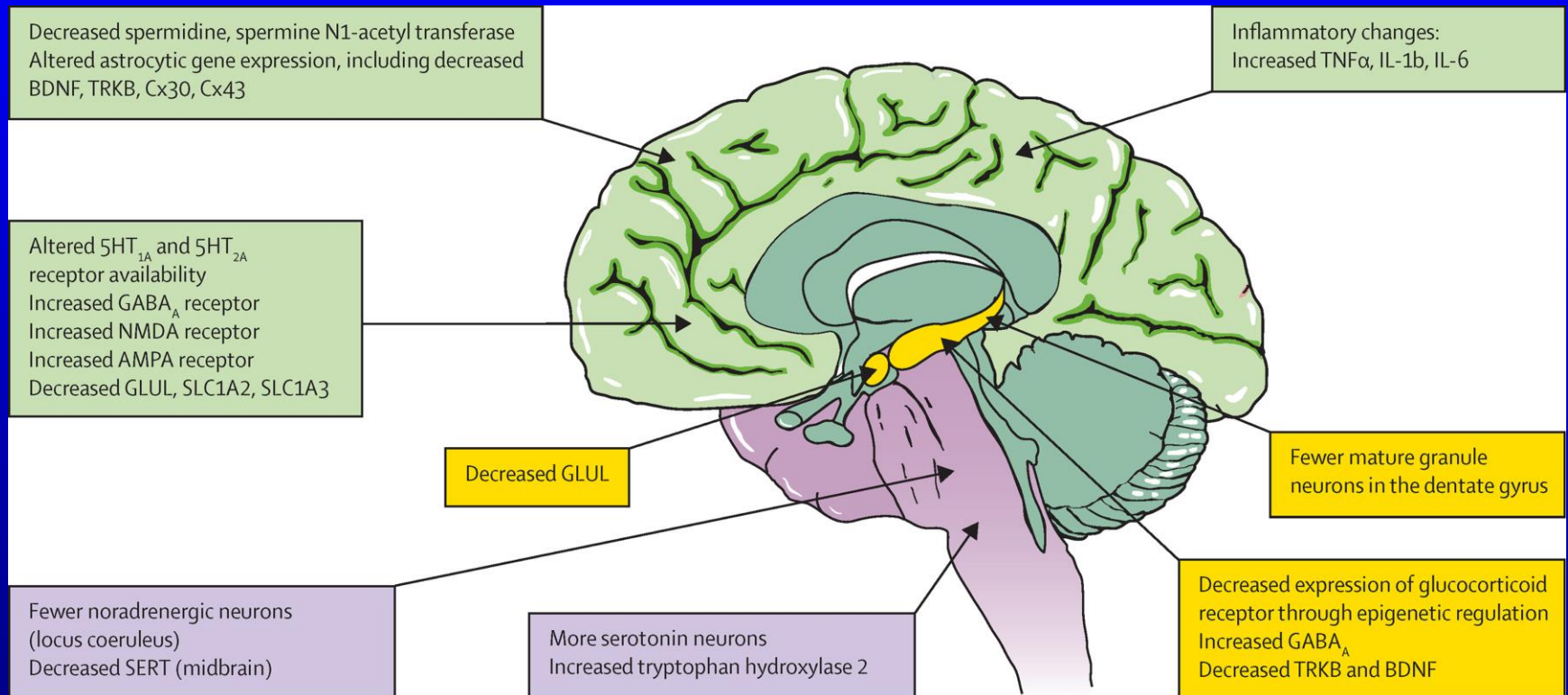


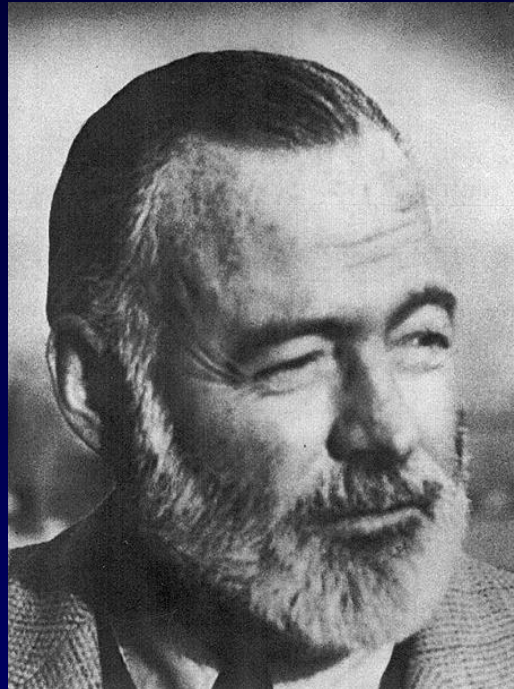
Fig. 1. Proposed model of suicidal tendency. If a mediation effect occurs, the broken lines which represent direct links between the predicting and the predicted variables are annulled (i.e. full mediation) or reduced (i.e. partial mediation).

Turecki and Brent Lancet 2015



Suicidal Behavior Runs in Families

(A Roy et al 1990, DA Brent et al., 1996)



Ernest Hemingway

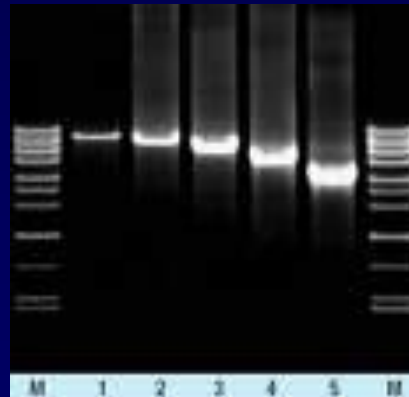
- MZ 13 times more risk of suicide than in DZ (Roy 1990)
- 5HT_{2A} gene expressed more and SKA2 gene expressed less in brains of teens suicide victims (Pandey G. Int NPP, 2002)

- **DZ 0.7%**
- **MZ 13%**

Suicidal Behavior Runs in Families

Direct main effect approach

- TPH1
- TPH2
- SERT
- COMT
- MAO
- 5HT's
- DR
- NET
- BDNF
- Wolfram (WFS1)
- Etc.....



→ Equivocal results
→ MZ>DZ but far from 100%

A pilot genome wide association and gene expression array study of suicide with and without major depression

Hanga Galfalvy, Gil Zalsman, Yung-Yu Huang, Lauren Murphy, Gorazd Rosoklija, Andrew J. Dwork, Fatima Haghighi, Victoria Arango & J. John Mann

100 brains of suicide victims
50 brains of “natural deaths”

Galfalvy et al., WJBP, 2014



Table 3: Literature review for the 19 significant GWAS candidate genes in suicides (based on OMIM database*)

Gene Symbol	Chro. #	Description	Suggested clinical role*	Similar Genes found by others in expression studies
<i>CDH13</i>	16	cadherin 13, H-cadherin (heart)	Lung tumor recurrence?	CDH12, CDH22 (Thalmeier et al., 2008)
<i>NPR3</i>	5	natriuretic peptide receptor C	Maintenance of blood pressure	
<i>CD300LB</i>	17	CD300 antigen-like family member b	Cell surface localization in B and NK cells	
<i>FOXP3</i>	14	forkhead helix transcription	DNA damage correction?	ADAMTS1, IGF1, VIP, WDR39 (Thalmeier et al. 2008)
<i>DISC1</i>	1	disrupted in schizophrenia 1	Susceptibility for schizophrenia (Millar et al. 2000)	
<i>CYP19A1</i>	15	cytochrome P450, family 19, subfamily A, polypeptide 1	Aromatase deficiency	
<i>MYO3A</i>	10	myosin IIIA	Autosomal recessive deafness	MYR8 (Thalmeier et al. 2008)
<i>SFRS11</i>	1	arginine/serine-rich 11 splicing factors	Pre-mRNA splicing?	
<i>LSAMP</i>	3	limbic system-associated membrane protein	Neuronal surface glycoprotein in limbic system (Pimenta et al., 1996)	
<i>DSC2</i>	18	desmocollin 2	Ca dependent glycoprotein important for cell adhesion	
<i>SPTLC1</i>	9	serine palmitoyltransferase, long chain base subunit 1	Hereditary sensory neuropathy	
<i>ACCN1</i>	17	amiloride-sensitive cation channel 1, neuronal (degenerin)	neurodegeneration? KO-mice reduced sensitivity to mechanic sensation	
<i>FLJ23312</i>	5	Hypothetical protein	Not known	FLJ21616 (Sequeira et al. 2007)
<i>MBNL2</i>	13	muscleblind-like 2	May be associated with Myotonic Dystrophy	
<i>CD44</i>	11	CD44 molecule	Migration, cell fusion, tumorigenesis?	(Thalmeier et al.2008, Sequeira et al.2007)
<i>TUBGCP3</i>	13	tubulin, gamma complex associated protein 3	Associated with gama-tubulin in cells and oocytes	

Suggested Mechanisms:

- Psychological
- Biological
- GxE interaction

Article

Association of a Triallelic Serotonin Transporter Gene Promoter Region (5-HTTLPR) Polymorphism With Stressful Life Events and Severity of Depression

Gil Zalsman, M.D.

Yung-yu Huang, M.S.

Maria A. Oquendo, M.D.

Ainsley K. Burke, Ph.D.

Xian-zhang Hu, M.D, Ph.D.

David A. Brent, M.D.

Steven P. Ellis, Ph.D.

David Goldman, M.D.

J. John Mann, M.D.

Objective: The lower expressing allele of the serotonin transporter gene 5' promoter region (5-HTTLPR) polymorphism is reported to be associated with susceptibility to depression and suicidality in response to stressful life events. The authors examined the relationship of a triallelic 5-HTTLPR polymorphism to stressful life events, severity of major depression, and suicidality.

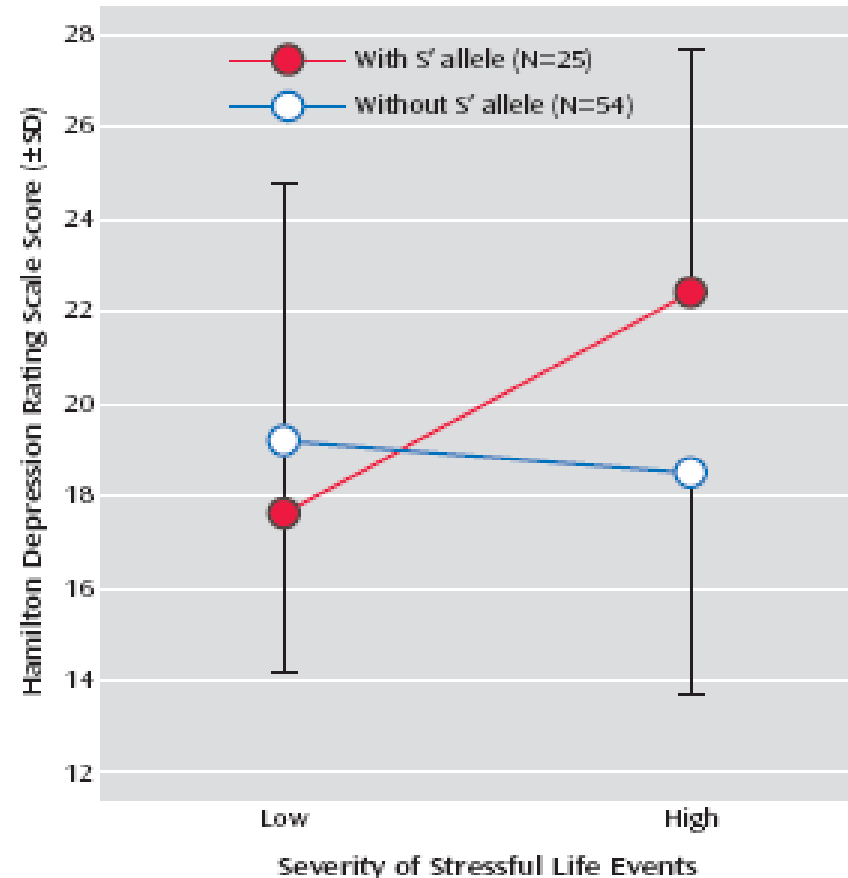
Method: Mood disorder subjects (N=191) and healthy volunteers (N=125), all Caucasian subjects of European origin, were genotyped for the triallelic 5-HTTLPR polymorphism (higher expressing allele: L_A; lower expressing alleles: L_G, S). All subjects underwent structured clinical interviews to determine DSM-IV diagnoses,

ratings of psychopathology, stressful life events, developmental history, and suicidal behavior. CSF 5-HIAA was assayed in a subgroup of subjects.

Results: Lower expressing alleles independently predicted greater depression severity and predicted greater severity of major depression with moderate to severe life events compared with the higher expressing L_A allele. No associations with suicidal behavior and CSF 5-HIAA were found.

Conclusions: Lower expressing transporter alleles, directly and by increasing the impact of stressful life events on severity, explain 31% of the variance in major depression severity. The biological phenotype responsible for these effects remains to be elucidated.

FIGURE 1. Relationship of Depression Severity and Stressful Life Events by 5-HTTLPR Genotype^a



^a Stressful life events score measured by St. Paul-Ramsey Scale (30, 31). High and low stressful life events were defined using a median split. The overall model was significant ($F=2.22$, $df=13, 78$, $p<0.02$), and independent effects were found for genotype ($F=4.71$, $df=2, 78$, $p<0.02$) and the interaction of genotype and St. Paul-Ramsey Scale score ($F=2.27$, $df=6, 78$, $p<0.05$).

- Third allele
- Subjective SLE



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www.elsevier.com/locate/euroneuro



Genetic vulnerability, timing of short-term stress and mood regulation: A rodent diffusion tensor imaging study



Gil Zalsman^{a,b,*}, Avihay Gutman^{c,d}, Liat Shbiro^d, Ruth Rosenan^d,
J. John Mann^b, Aron Weller^d

WKY Rat

Animal model for depression, despair and anhedonia



GxExT

(Exposure to stress) at different developmental windows

G x E x Gender x T

T1 (27)



T2 (44)



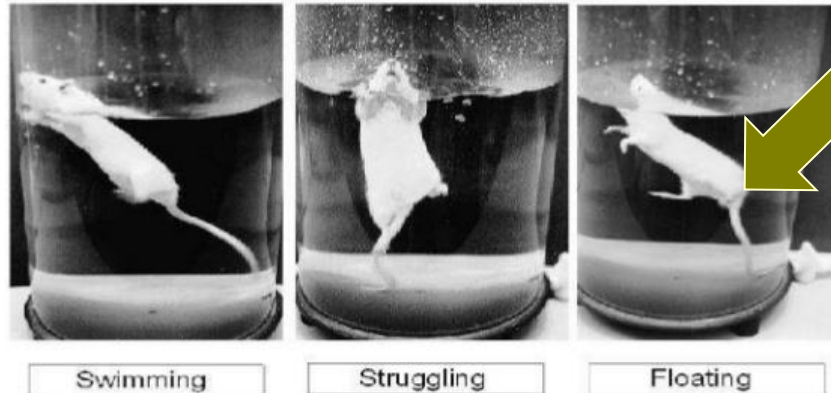
T3 (58)



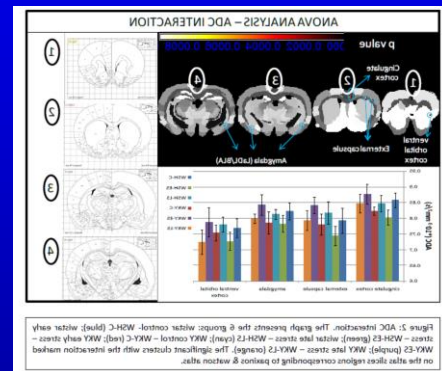
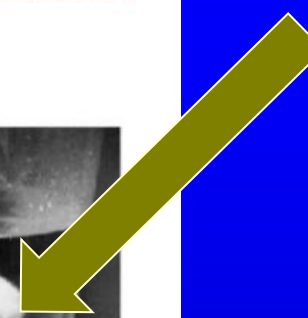
WKY

Forced Swim Test

Forced Swimming



Despair

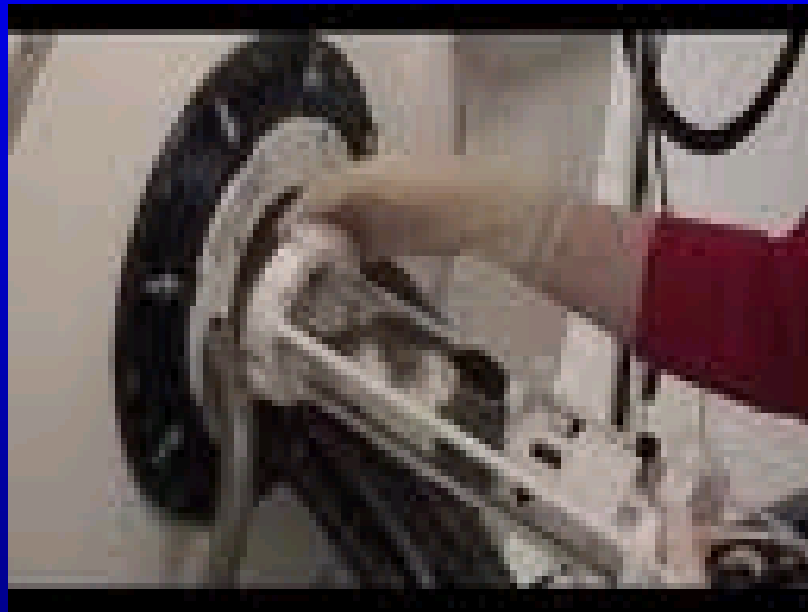


WKY rats with genetic vulnerability to depression
are more depressed in adulthood if exposure to stress
was in early development

=

Gene X Environment X Timing Interaction

Rats MRI and brain perfusion



Tel Aviv University MRI

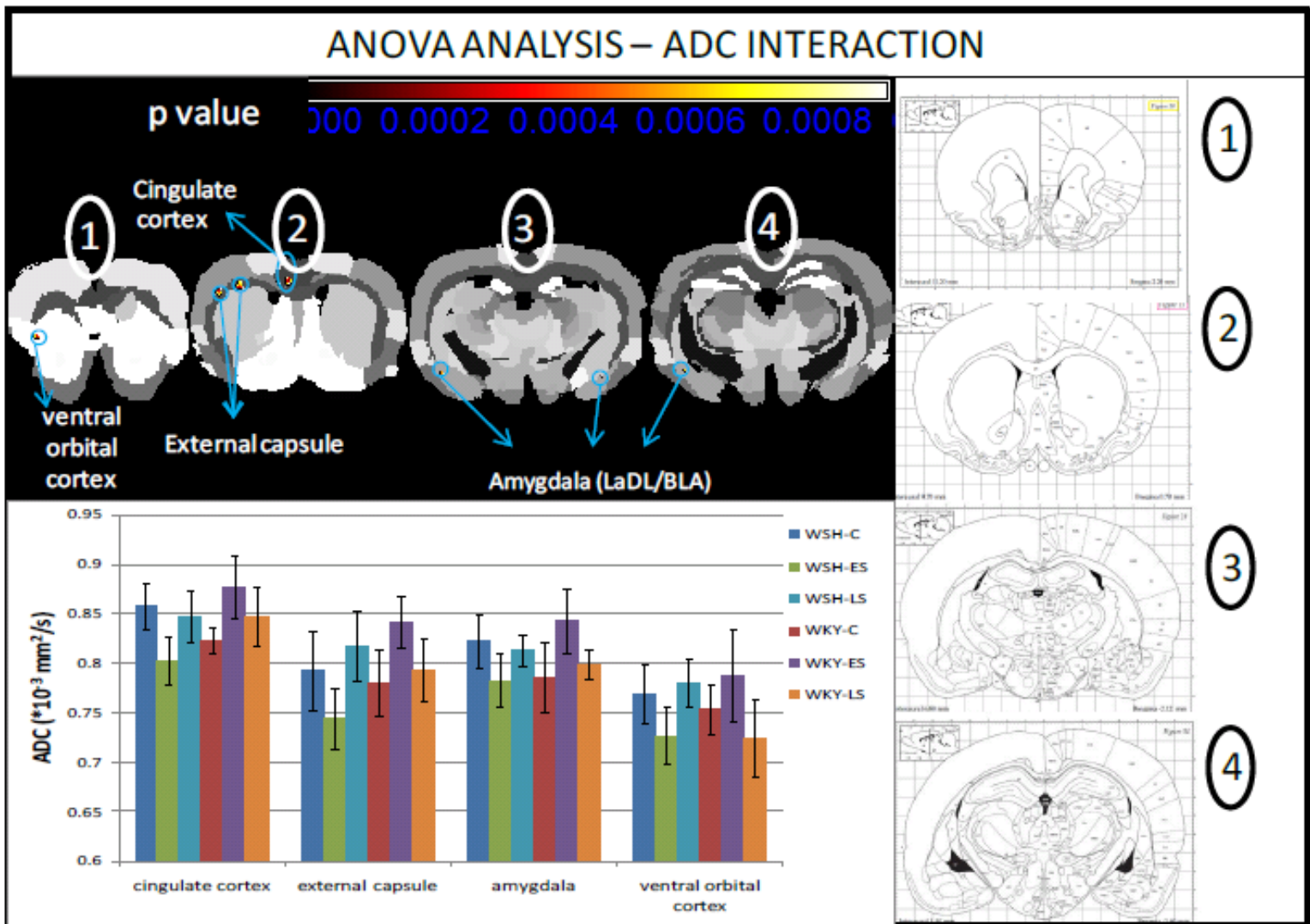


Figure 2: ADC interaction. The graph presents the 6 groups: wistar control- WSH-C (blue); wistar early stress – WSH-ES (green); wistar late stress – WSH-LS (cyan); WKY control – WKY-C (red); WKY early stress – WKY-ES (purple); WKY late stress – WKY-LS (orange). The significant clusters with the interaction marked on the atlas slices regions corresponding to paxinos & watson atlas.

**Epigenetics may be the link
between G and E**

Labonte 2013

Article

Genome-Wide Methylation Changes in the Brains of Suicide Completers

Benoit Labonté, M.Sc.

Matt Suderman, Ph.D.

Gilles Maussion, Ph.D.

Juan Pablo Lopez, B.Sc.

Luis Navarro-Sánchez, M.Sc.

Volodymyr Yerko, Ph.D.

Naguib Mechawar, Ph.D.

Moshe Szyf, Ph.D.

Michael J. Meaney, Ph.D.

Gustavo Turecki, M.D., Ph.D.

Objective: Gene expression changes have been reported in the brains of suicide completers. More recently, differences in promoter DNA methylation between suicide completers and comparison subjects in specific genes have been associated with these changes in gene expression patterns, implicating DNA methylation alterations as a plausible component of the pathophysiology of suicide. The authors used a genome-wide approach to investigate the extent of DNA methylation alterations in the brains of suicide completers.

Method: Promoter DNA methylation was profiled using methylated DNA immunoprecipitation (MeDIP) followed by microarray hybridization in hippocampal tissue from 62 men (46 suicide completers and 16 comparison subjects). The correlation between promoter methylation and expression was investigated by comparing the MeDIP data with gene expression profiles generated through mRNA microarray. Methylation differences between groups were validated on neuronal and

nonneuronal DNA fractions isolated by fluorescence-assisted cell sorting.

Results: The authors identified 366 promoters that were differentially methylated in suicide completers relative to comparison subjects (273 hypermethylated and 93 hypomethylated). Overall, promoter methylation differences were inversely correlated with gene expression differences. Functional annotation analyses revealed an enrichment of differential methylation in the promoters of genes involved, among other functions, in cognitive processes. Validation was performed on the top genes from this category, and these differences were found to occur mainly in the neuronal cell fraction.

Conclusions: These results suggest broad reprogramming of promoter DNA methylation patterns in the hippocampus of suicide completers. This may help explain gene expression alterations associated with suicide and possibly behavioral changes increasing suicide risk.

Can we really prevent suicide?

NIH Public Access
Author Manuscript
Curr Psychiatry Rep. Author manuscript; available in PMC 2013 December 01.

Published in final edited form as:
Curr Psychiatry Rep. 2012 December ; 14(6): 624–633. doi:10.1007/s11920-012-0318-3.

Can We Really Prevent Suicide?

Maya Schwartz-Lifshitz¹, Gil Zalsman², Lucas Giner³, and Maria A. Oquendo⁴

¹Geha Mental Health Center, Petach Tiqwa, Israel

²Geha Mental Health Center, Petach Tiqwa, Israel and Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

³Department of Psychiatry, University of Seville, Seville, Spain

⁴New York State Psychiatric Institute and Columbia University, New York, New York, USA

Abstract

Lifshitz, Zalsman, Giner, Oquendo, Curr Psy Rep, 2012

Lancet Psychiatry 2016

Articles

Suicide prevention strategies revisited: 10-year systematic review



Gil Zalsman, Keith Hawton, Danuta Wasserman, Kees van Heeringen, Ella Arensman, Marco Sarchiapone, Vladimir Carli, Cyril Höschl, Ran Barzilay, Judit Balazs, György Purebl, Jean Pierre Kahn, Pilar Alejandra Sáiz, Cendrine Bursztein Lipsicas, Julio Bobes, Doina Cozman, Ulrich Hegerl, Joseph Zohar

Summary

Background Many countries are developing suicide prevention strategies for which up-to-date, high-quality evidence is required. We present updated evidence for the effectiveness of suicide prevention interventions since 2005.

Lancet Psychiatry 2016

Published Online

June 8, 2016

<http://dx.doi.org/10.1016/>

THE LANCET Psychiatry

Volume 3 · Issue 7 · July 2016

www.thelancet.com/psychiatry



Comment

Schizophrenia: inorganic no more
See page 600

Articles

Psilocybin with psychological support for
treatment-resistant depression
See page 619

Articles

Suicide prevention strategies revisited:
10-year systematic review
See page 646

Experts in suicide research from all over Europe.

- United Kingdom
- Sweden
- The Netherlands
- Ireland
- Italy
- Czech Republic
- Hungary
- France
- Spain
- Germany
- Romania
- Israel



Classification of evio



Oxford Criteria for Evidence Strength



Oxford Centre for Evidence-based Medicine – Levels of Evidence (March 2009).

Level	Therapy / Prevention, Aetiology / Harm	Prognosis	Diagnosis	Differential diagnosis / symptom prevalence study	Economic and decision analyses
1a	SR (with homogeneity*) of RCTs	SR (with homogeneity*) of inception cohort studies; CDR" validated in different populations	SR (with homogeneity*) of Level 1 diagnostic studies; CDR" with 1b studies from different clinical centres	SR (with homogeneity*) of prospective cohort studies	SR (with homogeneity*) of Level 1 economic studies
1b	Individual RCT (with narrow Confidence Interval";)	Individual inception cohort study with > 80% follow-up; CDR" validated in a single population	Validating** cohort study with good" " " reference standards; or CDR" tested within one clinical centre	Prospective cohort study with good follow-up****	Analysis based on clinically sensible costs or alternatives; systematic review(s) of the evidence; and including multi-way sensitivity analyses
1c	All or none§	All or none case-series	Absolute SpPins and SnNouts" "	All or none case-series	Absolute better-value or worse-value analyses " " " "
2a	SR (with homogeneity*) of cohort studies	SR (with homogeneity*) of either retrospective cohort studies or untreated control groups in RCTs	SR (with homogeneity*) of Level >2 diagnostic studies	SR (with homogeneity*) of 2b and better studies	SR (with homogeneity*) of Level >2 economic studies

A green rectangular road sign with rounded corners and a white border. The word "Results" is written in large, white, sans-serif capital letters. The sign is mounted on two wooden posts. The background is a bright blue sky filled with fluffy white clouds.

Results

Results

1797 studies were identified including:

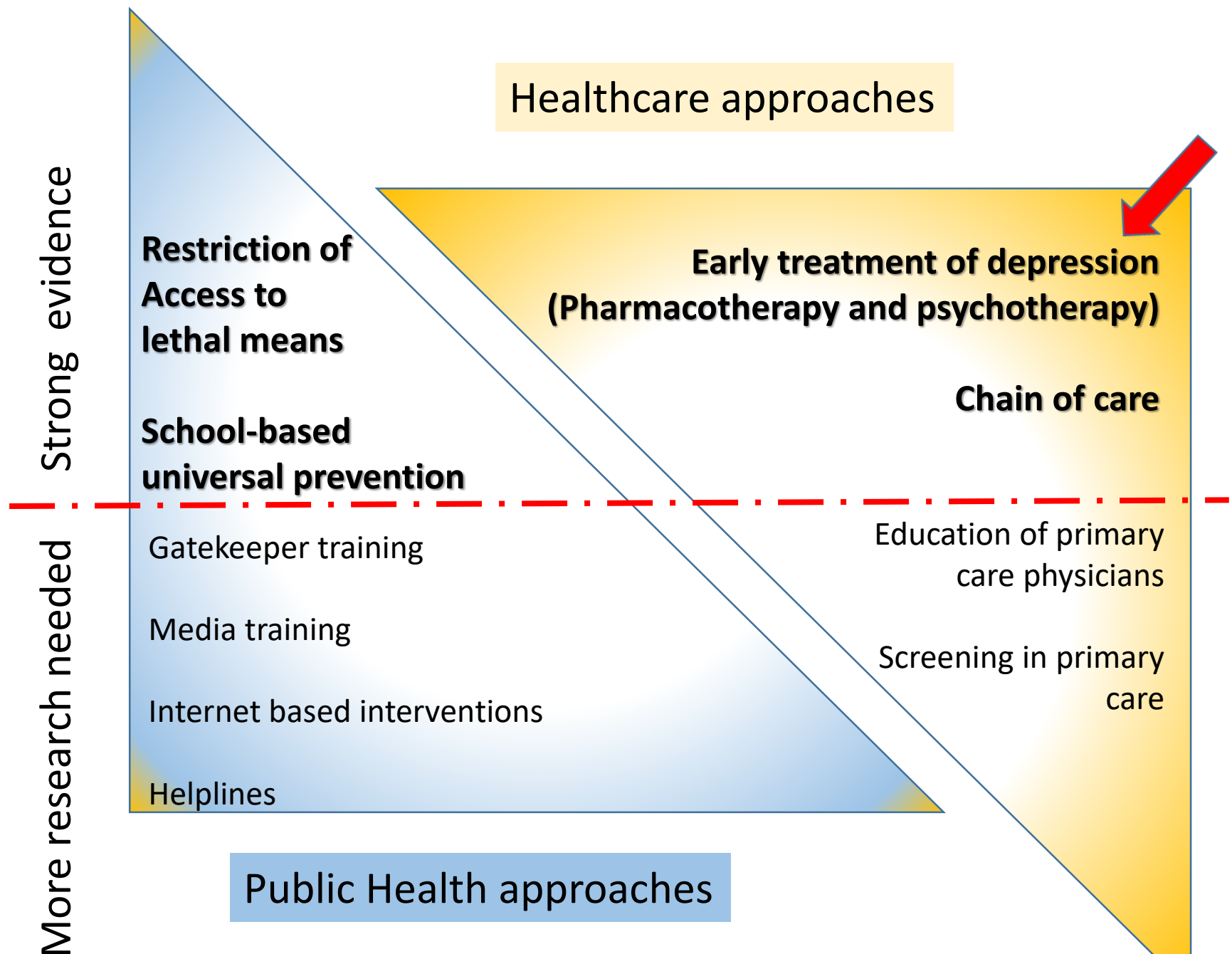
23 systematic reviews,

12 meta-analyses,

40 randomized controlled trials (RCTs),

67 cohort trials,

22 ecological or population-based

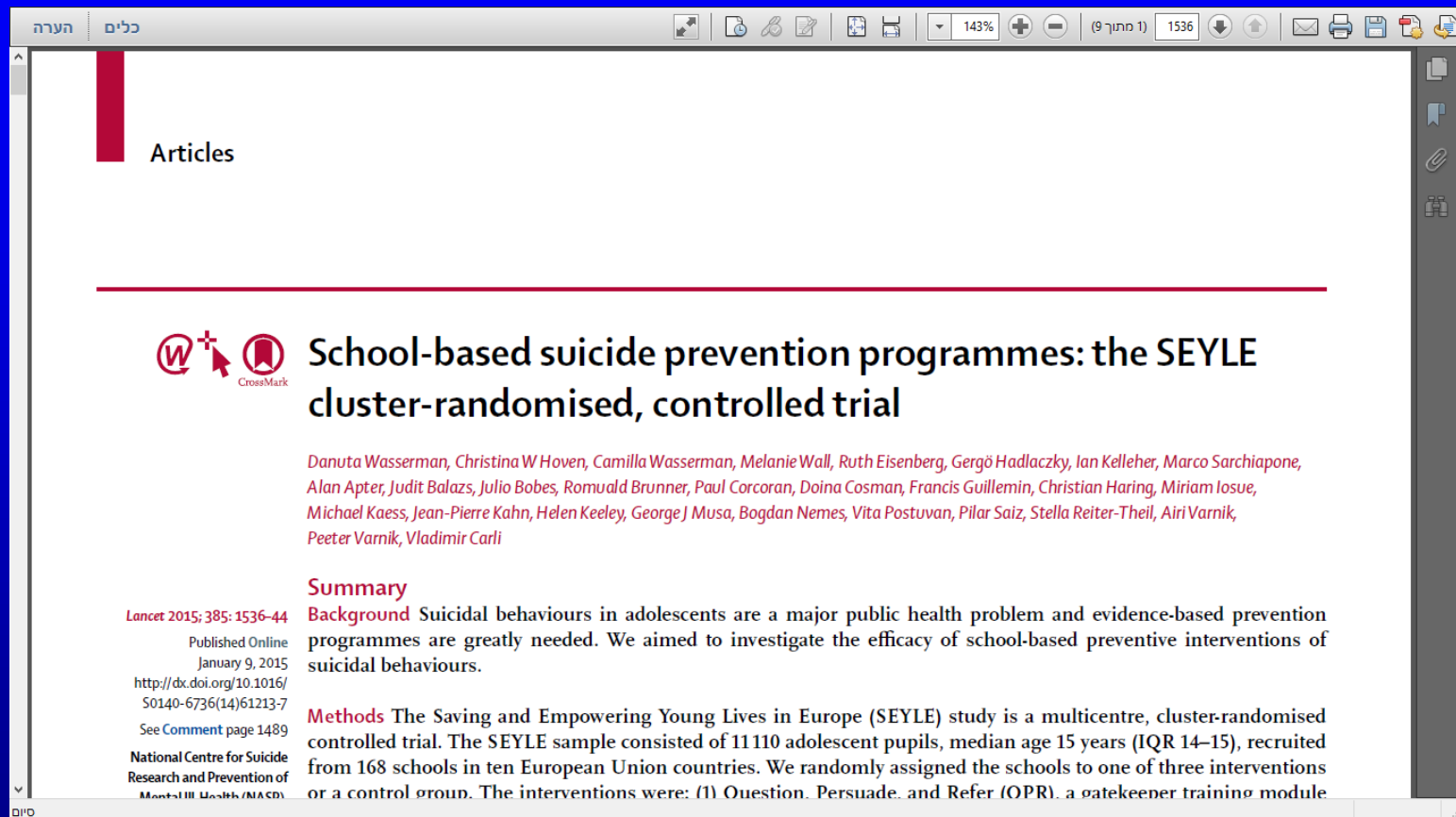


From: Zalsman et al., ENPP, 2017

Graphics: V. Carli


School based interventions

Wasserman D. et al, Lancet 2016



The screenshot shows a web browser window with a Hebrew interface. The address bar shows 'הערה כלים' (Note Tools). The page title is 'Articles'. The main content area displays the title 'School-based suicide prevention programmes: the SEYLE cluster-randomised, controlled trial' with a CrossMark logo. Below the title is a list of authors: Danuta Wasserman, Christina W Hoven, Camilla Wasserman, Melanie Wall, Ruth Eisenberg, Gergö Hadlaczky, Ian Kelleher, Marco Sarchiapone, Alan Apter, Judit Balazs, Julio Bobes, Romuald Brunner, Paul Corcoran, Doina Cosman, Francis Guillemin, Christian Haring, Miriam Iosue, Michael Kaess, Jean-Pierre Kahn, Helen Keeley, George J Musa, Bogdan Nemes, Vita Postuvan, Pilar Saiz, Stella Reiter-Theil, Airi Varnik, Peeter Varnik, Vladimir Carli. Below the authors is a 'Summary' section. The 'Background' states: 'Suicidal behaviours in adolescents are a major public health problem and evidence-based prevention programmes are greatly needed. We aimed to investigate the efficacy of school-based preventive interventions of suicidal behaviours.' The 'Methods' states: 'The Saving and Empowering Young Lives in Europe (SEYLE) study is a multicentre, cluster-randomised controlled trial. The SEYLE sample consisted of 11110 adolescent pupils, median age 15 years (IQR 14–15), recruited from 168 schools in ten European Union countries. We randomly assigned the schools to one of three interventions or a control group. The interventions were: (1) Question. Persuade. and Refer (OPR), a gatekeeper training module'. On the left side of the page, there is a sidebar with the following text: 'Lancet 2015; 385: 1536–44', 'Published Online January 9, 2015', 'http://dx.doi.org/10.1016/S0140-6736(14)61213-7', 'See Comment page 1489', 'National Centre for Suicide Research and Prevention of Mental Health/MASCD', and 'DIP'.

Articles

 **School-based suicide prevention programmes: the SEYLE cluster-randomised, controlled trial**

Danuta Wasserman, Christina W Hoven, Camilla Wasserman, Melanie Wall, Ruth Eisenberg, Gergö Hadlaczky, Ian Kelleher, Marco Sarchiapone, Alan Apter, Judit Balazs, Julio Bobes, Romuald Brunner, Paul Corcoran, Doina Cosman, Francis Guillemin, Christian Haring, Miriam Iosue, Michael Kaess, Jean-Pierre Kahn, Helen Keeley, George J Musa, Bogdan Nemes, Vita Postuvan, Pilar Saiz, Stella Reiter-Theil, Airi Varnik, Peeter Varnik, Vladimir Carli

Summary

Background Suicidal behaviours in adolescents are a major public health problem and evidence-based prevention programmes are greatly needed. We aimed to investigate the efficacy of school-based preventive interventions of suicidal behaviours.

Methods The Saving and Empowering Young Lives in Europe (SEYLE) study is a multicentre, cluster-randomised controlled trial. The SEYLE sample consisted of 11110 adolescent pupils, median age 15 years (IQR 14–15), recruited from 168 schools in ten European Union countries. We randomly assigned the schools to one of three interventions or a control group. The interventions were: (1) Question. Persuade. and Refer (OPR), a gatekeeper training module

Lancet 2015; 385: 1536–44
Published Online
January 9, 2015
[http://dx.doi.org/10.1016/S0140-6736\(14\)61213-7](http://dx.doi.org/10.1016/S0140-6736(14)61213-7)
See Comment page 1489
National Centre for Suicide
Research and Prevention of
Mental Health/MASCD
DIP

N=12000, YAM* program for students not teachers.
*Youth Awareness of Mental illness



Contents lists available at ScienceDirect

European Psychiatry

journal homepage: <http://www.europsych-journal.com>



Original article

Psychological autopsy of seventy high school suicides: Combined qualitative/quantitative approach



G. Zalsman^{a,b,*,1}, Y. Siman Tov^{c,d,1}, D. Tzuriel^{c,e}, G. Shoval^a, R. Barzilay^a,
N. Tiech Fire^d, M. Sherf^f, J. John Mann^b



N=70 post mortem cases

Zalsman et al., Eur Psychiatry, 2016

“Typical” suicide victim in Israeli schools 2003-2011(n=70)

- **Male**
- **Low SES**
- **Low graded school**
- **Academic difficulties**
- **School counselor knows him**
- **Suicide risk undetected**
- **Truancy!!**
- **Mean 4 negative life events** (SD 2.5)
- **Low self disclosure** (Horesh Zalsman and Apter 2004)
- **Length of crisis 0.8 year**
- **Peers knew (46%)**
- **Trigger: interpersonal discord M/P humiliation (60%)**
- **Hanging (72%) near home (67%) late night (95%) during January (23%) or September (17%)**

Results- School based interventions

School-based awareness programs have been shown to reduce **suicide attempts** (odds ratio [OR] 0·45, 95% CI 0·24–0·85; $p=0\cdot014$) and **suicidal ideation** (0·5, 0·27–0·92; $p=0\cdot025$).

Pharmacotherapy of suicidal behavior

Results- Treatments of psychopathology

The anti-suicidal effects of **clozapine and lithium** have been substantiated, but might be **less specific than previously thought**. Effective pharmacological and psychological **treatments of depression** are important in prevention.

Daly et al., JAMA 2018

Adobe Reader Touch

JAMA Psychiatry | [Original Investigation](#)

Efficacy and Safety of Intranasal Esketamine Adjunctive to Oral Antidepressant Therapy in Treatment-Resistant Depression

A Randomized Clinical Trial

Ella J. Daly, MD; Jaskaran B. Singh, MD; Maggie Fedgchin, PharmD; Kimberly Cooper, MS; Pilar Lim, PhD; Richard C. Shelton, MD; Michael E. Thase, MD; Andrew Winokur, MD, PhD; Luc Van Nueten, MD; Hussein Manji, MD, FRCPC; Wayne C. Drevets, MD

IMPORTANCE Approximately one-third of patients with major depressive disorder (MDD) do not respond to available antidepressants.

OBJECTIVE To assess the efficacy, safety, and dose-response of intranasal esketamine hydrochloride in patients with treatment-resistant depression (TRD).

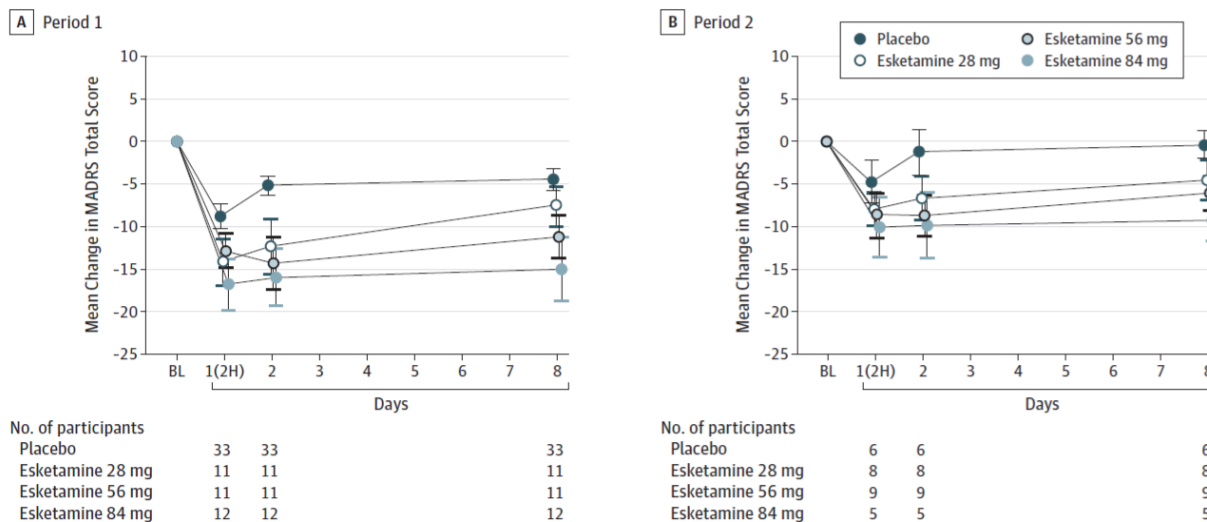
DESIGN, SETTING, AND PARTICIPANTS This phase 2, double-blind, doubly randomized, delayed-start, placebo-controlled study was conducted in multiple outpatient referral centers from January 28, 2014, to September 25, 2015. The study consisted of 4 phases: (1) screening, (2) double-blind treatment (days 1-15), composed of two 1-week periods, (3) optional open-label treatment (days 15-74), and (4) posttreatment follow-up (8 weeks). One hundred twenty-six adults with a *DSM-IV-TR* diagnosis of MDD and history of inadequate response to 2 or more antidepressants (ie, TRD) were screened, 67 were randomized, and 60 completed both double-blind periods. Intent-to-treat analysis was used in evaluation of the findings.

[Editorial page 123](#)

[Supplemental content](#)

14:21 28/03/2018

Figure 2. Mean Change in Montgomery-Åsberg Depression Rating Scale (MADRS) Total Score Over Time in Double-Blind Phase

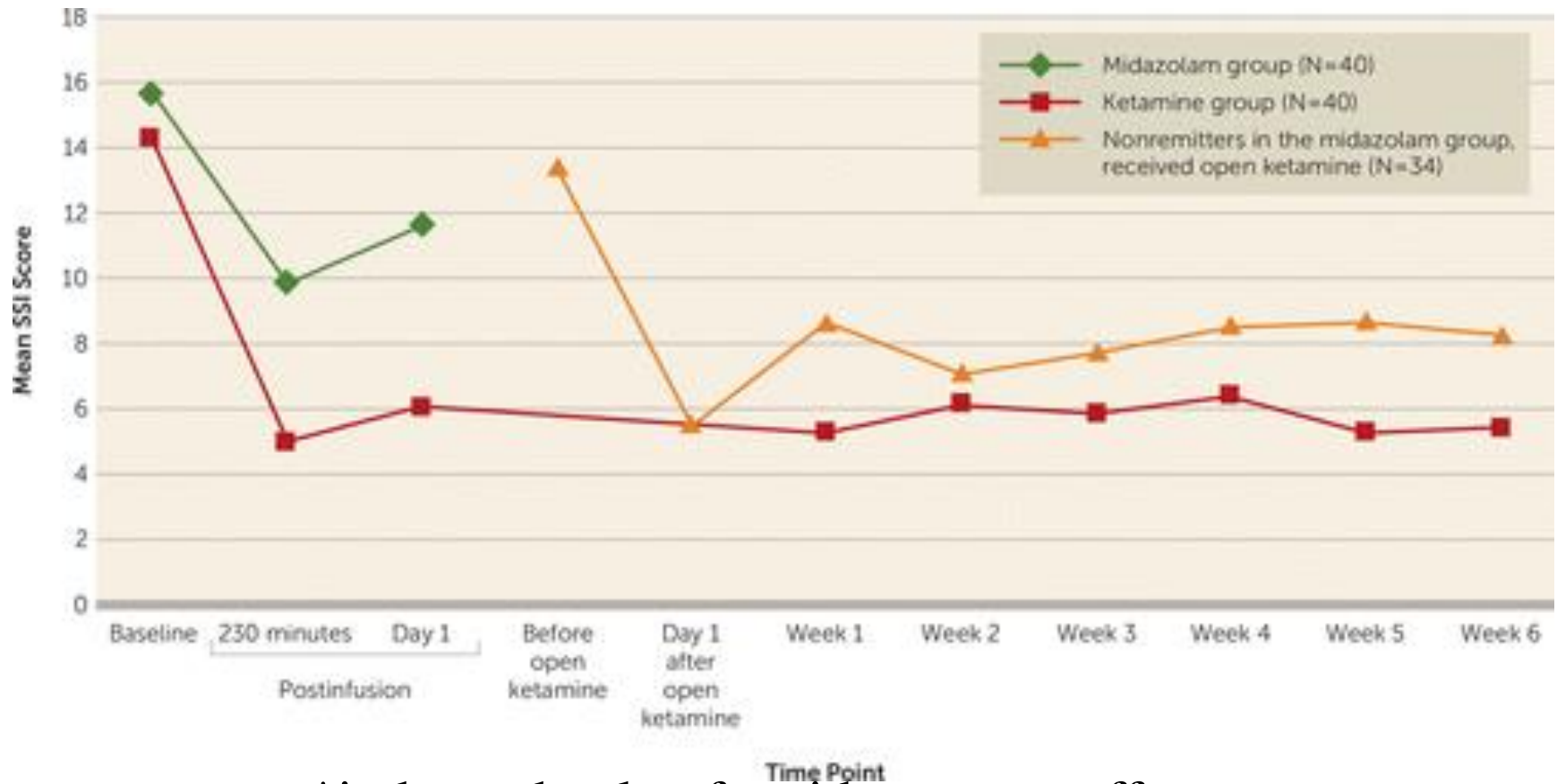


Changes shown in periods 1 (A) and 2 (B). Period 2 consisted only of participants who had received placebo in period 1 and had moderate to severe symptoms (n = 28). Period 1 (days 1-8) and period 2 (days 8-15) are discussed in the Design

section of the Methods and shown in the vertical axis of Figure 1. BL indicates baseline; 2H, 2 hours post dose. Error bars indicate SE.

Figure 3. MADRS Total Score: Mean Change in Montgomery-Åsberg Depression Rating Scale (MADRS) Total Score From Baseline to Follow-up End Point for Participants Who Entered the Open-Label Phase

Change in Suicidal Ideation Over Time in Suicidal Patients With Major Depression Treated With Infusion of Ketamine or Midazolam



*independently of antidepressant effect.

Grunbaum et al., AJP April 2018,175; 324

ECT and Suicide Tx

- ECT was shown to rapidly reduce suicide risk in case series but no controlled trials have been conducted. (Kellner et al., AJP 2005; Patel M et al., The journal of ECT 2006)





SSRIs and Suicide in Pediatric Population

- In children and adolescents with depression, evidence (RCTs) **does not support avoidance of use of antidepressant** medication because of increased risk of suicidal behavior, although there is evidence to suggest an increased risk of suicidal ideation in this population.
- Adding cognitive behavioral therapy (CBT) **to fluoxetine** may lead to less suicidal ideation and behavior than treatment with fluoxetine alone.

March JS et al., The Treatment for Adolescents With Depression Study (TADS): long-term effectiveness and safety outcomes. Archives of General Psychiatry 2007; 64(10): 1132-43.

Means Restrictions

Results- means restriction

Evidence for restricting access to lethal means in prevention of suicide has strengthened since 2005

especially with regard to control of analgesics (overall decrease of 43% since 2005) and hot-spots for suicide by jumping (reduction of 86% since 2005, 79% to 91%).

Golden Gate - San Francisco Suicide “Hot Spot”



Moher Cliffs, Ireland



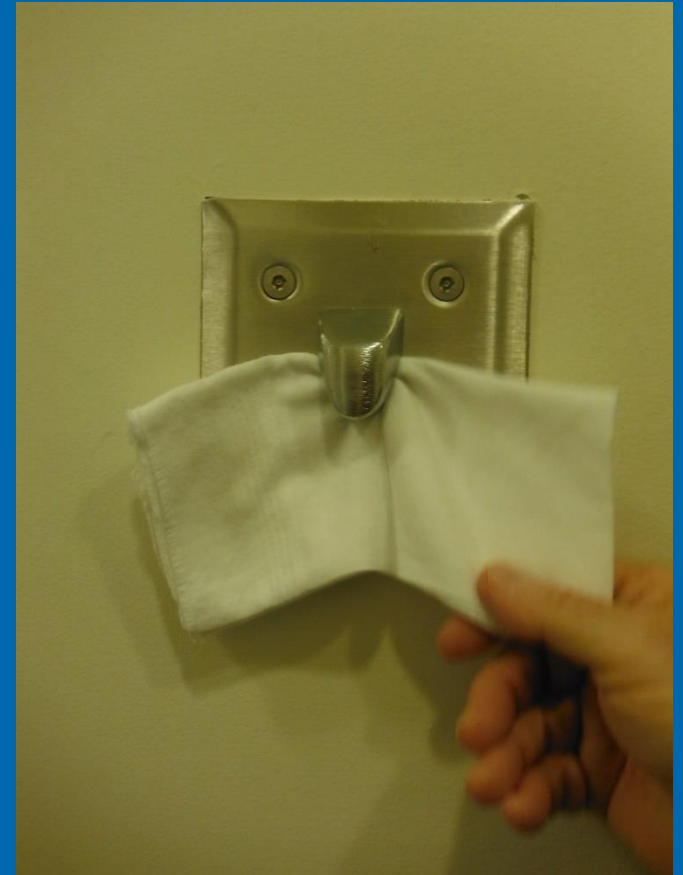
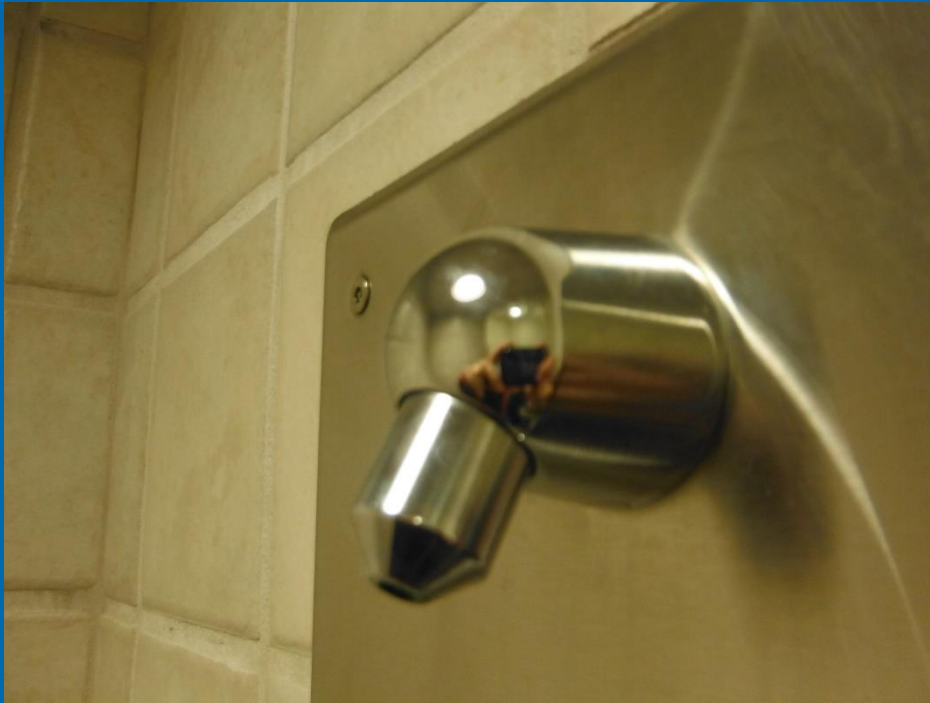
Moher Cliffs, Ireland



Psychiatric Hospital Suicides

- Hanging is the prevalent method
- The shower is the most dangerous place

Shepard Pratt Hospital, Baltimore, Maryland



McLean Hospital, Harvard University, Boston



Limiting pack size of analgesics (Paracetamol & Salicylates) 16/9/98

UK legislation on analgesic packs: before and after study of long term effect on poisonings

Keith Hawton, Sue Simkin, Jonathan Deeks, Jayne Cooper, Amy Johnston, Keith Waters, Morag Arundel, William Bernal, Bridget Gunson, Mark Hudson, Deepak Suri, Kenneth Simpson

- **Deaths lower by 22%**
- **Non fatal OD lowered by 29%**
- **Liver transplant reduced by 30%**
- **Some shift to ibuprofen (not fatal)**

Hawton et al., BMJ, 2004



What this study adds

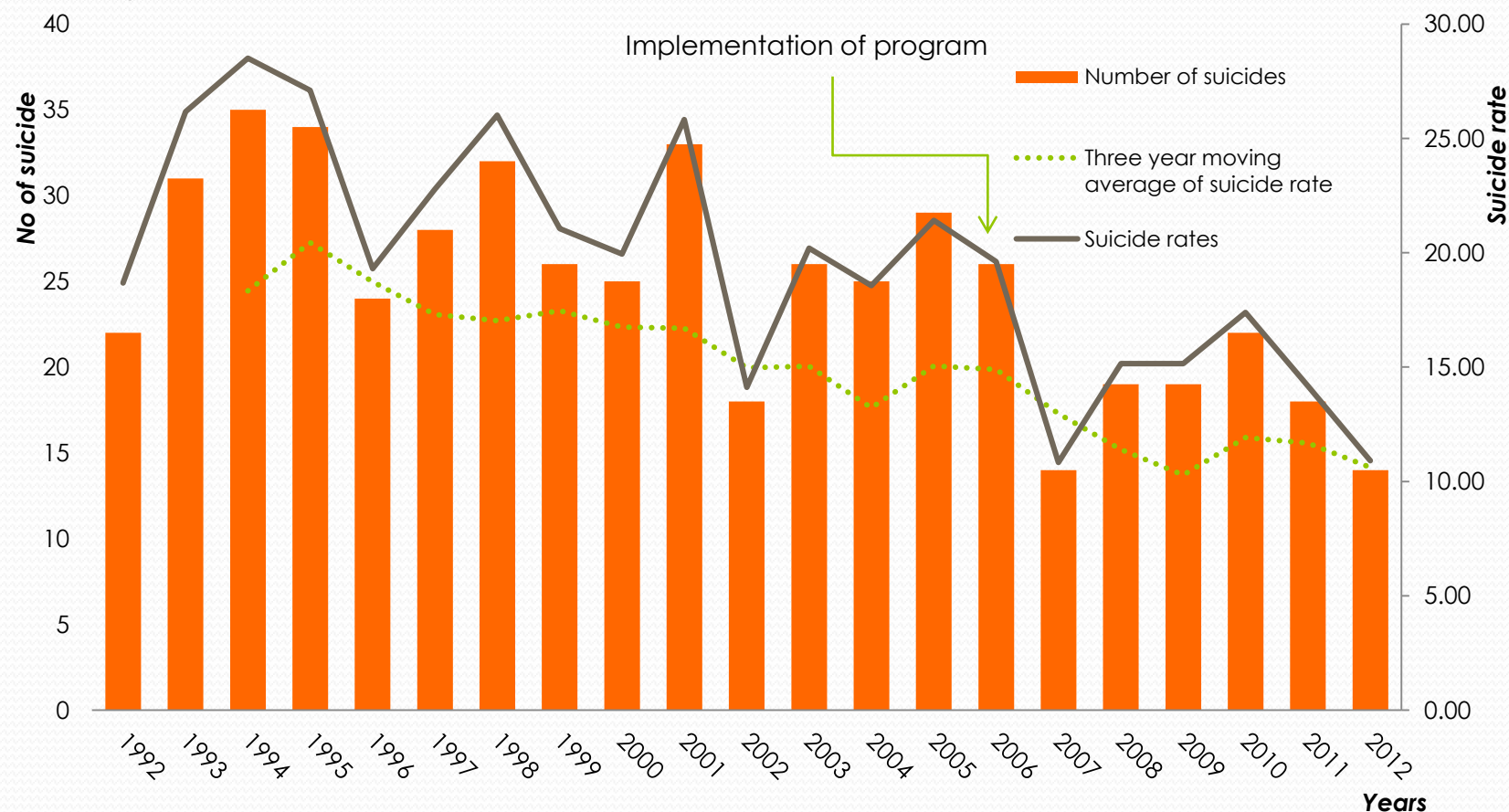
Legislation limiting pack sizes of analgesics has had sustained beneficial effects

Decreases have occurred in mortality and size of non-fatal overdoses and in admissions to liver units and liver transplants due to paracetamol poisoning

Although some substitution with ibuprofen may have occurred, there is no evidence that this has affected mortality

IDF suicide rate in 20 years – effect of guns restrictions

Fig 1 Number of suicides, suicide rates, and three year moving average for rates of suicide, IDF Mandatory service, 1992-2012



Lubin G et al., 2010; Laor L unpublished data; Shelef et al., 2016 in press

Results- Less evidence

Insufficient evidence :screening in primary care, in general public education and media guidelines.

Other approaches that need further investigation: gatekeeper training, education of physicians, and internet and helpline support.

Limitations:

The paucity of RCTs is a major limitation in the evaluation of preventive interventions.



Subjective Loneliness



Adolescence is the age of peer socialization



Small Talk Saves Lives – Samaritans

Sara Wilson case



Whatever works

- Means Restriction
- Aggressive Tx of Depression and Psychosis
- Comprehensive School Programs
- Chain of care
- Human connection



2019
IASR/AFSP
International Summit
on Suicide Research



American
Foundation
for Suicide
Prevention

October 27-30, 2019
Loews Miami Beach Hotel



International Academy
of Suicide Research



International Academy
of Suicide Research