

# **Adverse childhood experiences(ACEs) and disorders in adulthood**

**Mohammad S I Mullick**

*MBBS, PhD, FCPS(Psychiatry), FRCPsych, DCAP*

**Professor of Child & Adolescent Psychiatry**

**Department of Psychiatry**

**Bangabandhu Sheikh Mujib Medical University, Dhaka**

**Email: [msimullick@gmail.com](mailto:msimullick@gmail.com)**

# Talk Plan

- Briefing background information on Adverse Childhood Experiences(ACEs)
- Highlighting the findings of the major studies
- Summarizing psychopathology of ACEs
- Pointing Intervention and prevention of the advers effects ACEs
- Conclusions

# Background

**Adverse Childhood Experiences (ACEs)**—a term coined by researchers Vincent Felitti, Robert Anda, and colleagues in their [seminal study](#) conducted from 1995 to 1997 in the USA for the Adverse Childhood Experiences survey well known as [CDC-Kaiser ACE study](#)

# Background

**ACEs** are potentially traumatic events that occur in **childhood** such as **experiencing** violence, abuse, or neglect; **witnessing** violence in the home; and having a family member attempt or die by suicide

# Background

**ACEs**, also included are **aspects of the child's environment** that can undermine their sense of safety, stability, and bonding such as

- growing up in a household with substance misuse, mental health problems
- instability due to parental separation
- incarceration of a parent, sibling, or other member of the household

# Background

## Definition of ACEs

‘experiences which require significant adaptation by the developing child in terms of psychological, social and neurodevelopmental systems, and which are outside of the normal expected environment’

# Background

## Original identified ACEs are

1. Physical abuse
2. Sexual abuse
3. Emotional abuse
4. Mental illness of a household member
5. Problematic drinking or alcoholism of a household member
6. Illegal street or prescription drug use by a household member
7. Divorce or separation of a parent
8. Domestic violence towards a parent
9. Increased household members

# Background

Since the term ACEs has been adopted, varying lists of adversities added with the original list

- Emotional neglect
- Physical neglect
- Economic hardship
- Homelessness
- Community violence
- Discrimination
- Historical trauma(cumulative emotional harm of an individual or generation caused by a traumatic experience or event)
- Bullying



# Background

Though having apparent similarities, ACEs is **different** from

- **Childhood adversity**
- **Trauma**
- **Toxic stress**

# First ACEs Study

## Adverse Childhood Experiences (ACEs) Study (Fellitti et al 1998) or CDC-Kaiser ACE Study

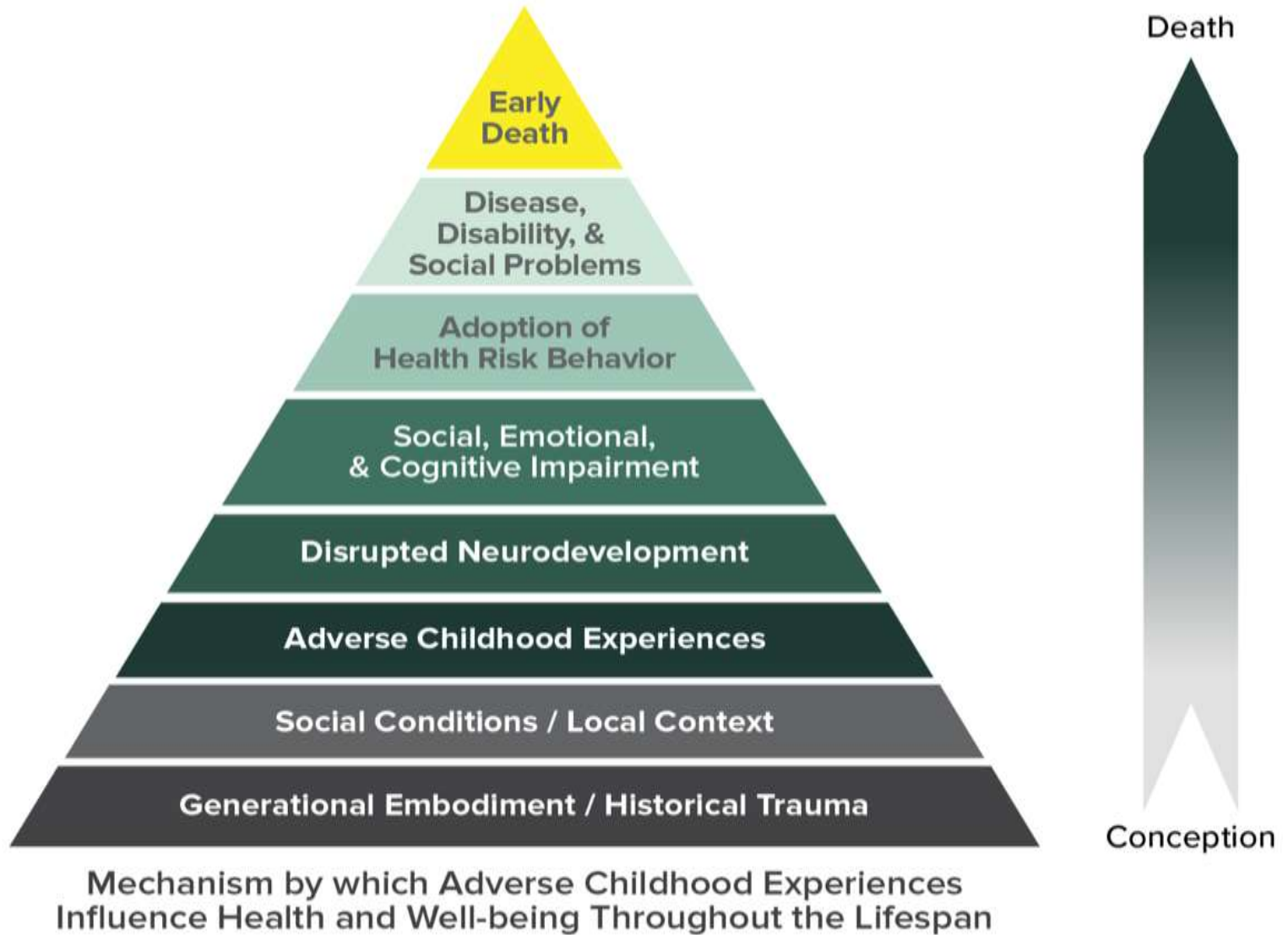
- It is the first and one of the largest
- Duration: 1995 to 1997
- Over 17,000 Health Maintenance Organization members from Southern California

# First ACEs Study

## ACE Pyramid

- The ACE Pyramid represents the **conceptual framework** for the ACE Study
- The ACE Study has uncovered how ACEs are strongly related to development of risk factors for disease, and well-being throughout the life course

# First ACEs Study



# First ACEs Study

## Instruments

- **Family Health History Questionnaire**
- **Health Appraisal Questionnaire**

comprehensive health status examinations and confidential surveys regarding their childhood experiences and current health status and behaviors

# First ACEs Study

## How are ACEs measured?

- **ACE score:** Assigning a 'cumulative risk score' based on the number of adversities experienced by an individual
- Assessing links between higher ACE scores and poorer health

# First ACEs Study

## Major Findings

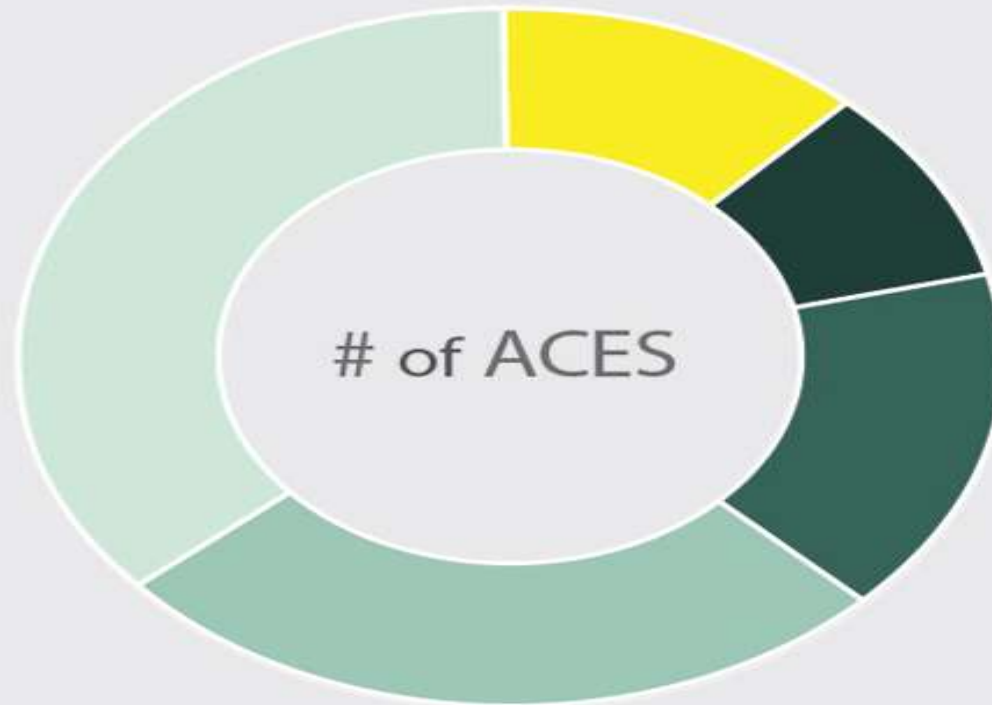
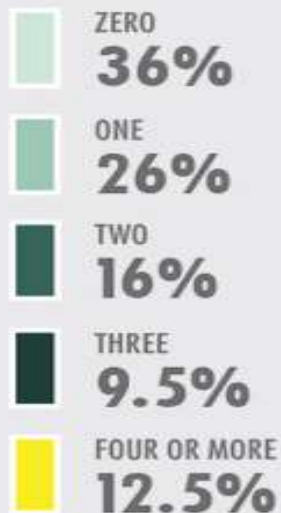
ACEs have been linked to

- risky health behaviors
- chronic health conditions
- low life potential
- early death

# First ACEs Study

## How Common are ACEs?

ACE Study





# Subsequent Studies

- There have been numerous other studies which have found similar findings
- Some studies highlighted on psychopathology and pathophysiology of the effects of ACEs on Health
- There are studies on outcome of interventions

# Subsequent Studies

## Instruments to assess ACEs

- **Questionnaires of original ACE study** are not copyrighted, and used by so many researches
- **BRFSS**- Behavioral Risk factors Surveillance System questionnaire developed by CDC in 2011
- **The ACE International Questionnaire (ACE-IQ)** developed by WHO is intended to measure ACEs in all countries, and the association between them and risk behaviours in later life.

# Subsequent Studies

## Number of ACEs

- 1 in 6 adults reported 4 or more types of ACEs
- Increased number of ACEs are proportionally associated with poorer health outcomes, health risk behaviors and socioeconomic challenges

# Subsequent Studies

## Characteristics of ACEs

- Studies identified that it is not merely the increased number of ACEs rather nature, severity, chronicity, and shared genetic and environmental confounders—all have individual or cumulative effect in developing later physical and mental health problems

# Impacts of ACEs

## On physical Health

ACEs causes increased risk of

- Poor self-rated health-HTN, DMT2
- STDs
- Obesity
- IHD
- Cancer
- Chronic lung disease-COPD
- Immunological diseases
- Skeletal fractures
- Liver disease

# Impacts of ACEs

## On mental Health

More exposure to ACEs cause increased risk of

- Alcoholism, smoking and drug abuse
- Depression and suicidal attempt
- Anxiety disorders, Stress disorders
- Reduced strength of relationship
- Antisocial PD, BPD

# Impacts of ACEs

Depression is the single most prevalent diseases associated with ACEs

# Impacts of ACEs

There is observed correlation ACEs with

- unfavourable outcome of both physical and mental disorders
- specific types of ACEs and specific health conditions
- poorer academic & professional achievement with social impairment
- health risk behaviors & socioeconomic challenges



# Impacts of ACEs

- Overall, increased ACEs has distant impact in adulthood
- The Impact of ACEs may be life long

# Early Adversity has Lasting Impacts



# Pathophysiology & Psychopathology

Effects depend upon

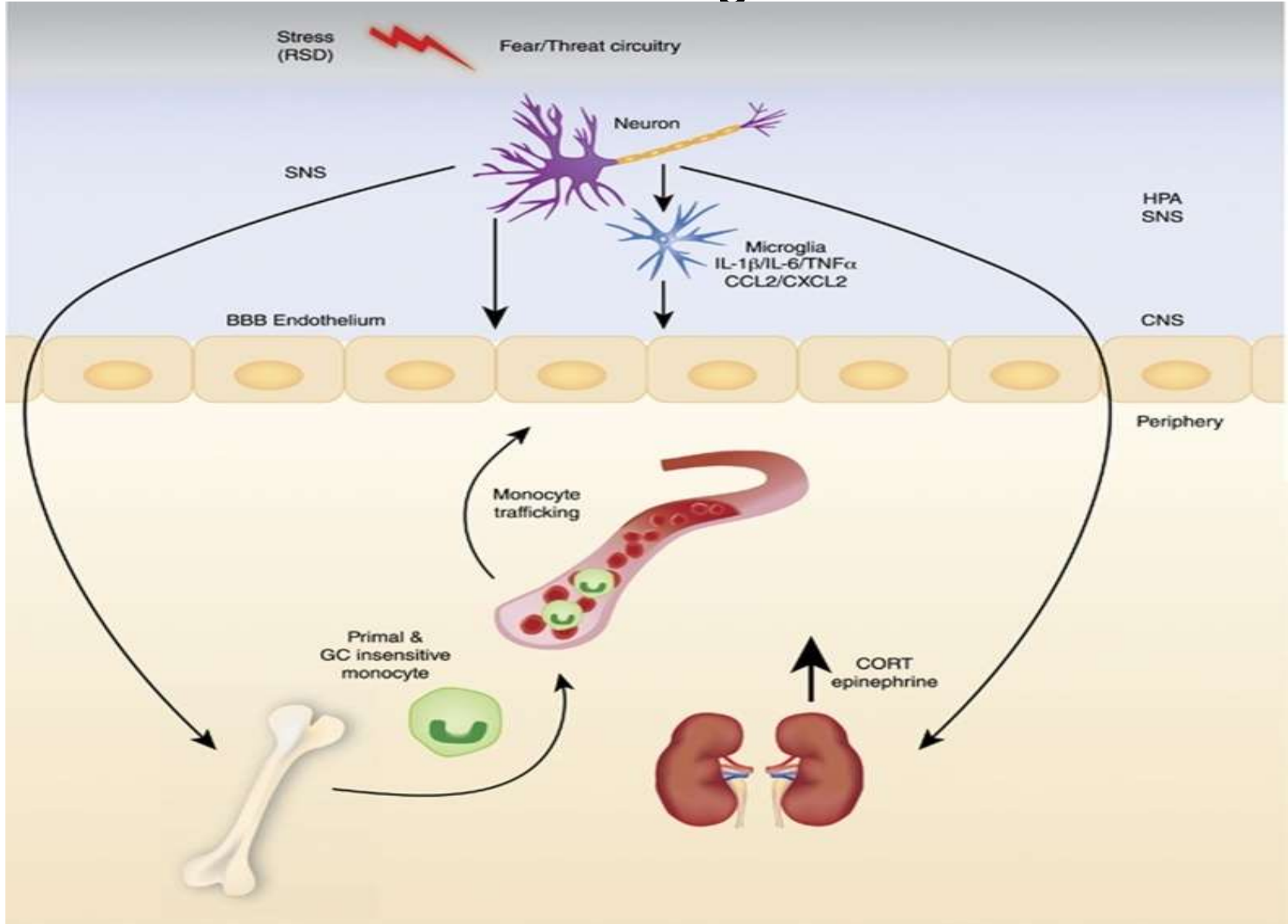
- **Risk and protective factors**-individual, family, and environmental
- **Biological makeup**
- **Characteristics of the ACEs**(intensity, duration, whether a caregiver caused the child harm)

# Pathophysiology & Psychopathology

- **Immunosuppression and inflammation** are other propositions proved by the several studies
- Best example of this proposition is “**inflamed depression**”

# Stress, inflammation and depression

## Neuroimmunological model



# Pathophysiology & Psychopathology

- Overall, the process is complex ,extensive, deeply rooted and certainly interactive
- Increased level of understanding in this field opens early identification the different mode of intervention

# Interventions

- Early identification of ACEs and children at risk
- Intervention of specific health problems
- Parental education
- Primary intervention through domiciliary services
- ACEs Prevention programs

# Preventions

- Increased **public understanding** creates opportunity **into action**
- Trauma-informed care in child and family service systems



# Preventions

- Addressing the conditions that put children and families at risk of ACEs so that ACEs can be prevented before they happen
- strategies to assure safe, stable, nurturing relationships
- promoting lifelong health and well-being that need to be considered as **Essentials for Childhood** for creating environments for all children

# Prevention

US Centre for Disease Control and Prevention CDC has developed

- Preventive strategy for ACEs
- A resource, [Preventing Adverse Childhood Experiences \(ACEs\): Leveraging the Best Available Evidence pdf icon\[4 MB, 40 Pages, 508\]](#) to help states and communities leverage the best available evidence to prevent ACEs from happening in the first place as well as lessen harms when ACEs do occur
- It features [six strategies](#) drawn from the CDC Technical Packages to Prevent Violence

# Strategies for Preventing ACEs



## Preventing ACEs

Strategy	Approach
<b>Strengthen economic supports to families</b>	<ul style="list-style-type: none"> <li>• Strengthening household financial security</li> <li>• Family-friendly work policies</li> </ul>
<b>Promote social norms that protect against violence and adversity</b>	<ul style="list-style-type: none"> <li>• Public education campaigns</li> <li>• Legislative approaches to reduce corporal punishment</li> <li>• Bystander approaches</li> <li>• Men and boys as allies in prevention</li> </ul>
<b>Ensure a strong start for children</b>	<ul style="list-style-type: none"> <li>• Early childhood home visitation</li> <li>• High-quality child care</li> <li>• Preschool enrichment with family engagement</li> </ul>
<b>Teach skills</b>	<ul style="list-style-type: none"> <li>• Social-emotional learning</li> <li>• Safe dating and healthy relationship skill programs</li> <li>• Parenting skills and family relationship approaches</li> </ul>
<b>Connect youth to caring adults and activities</b>	<ul style="list-style-type: none"> <li>• Mentoring programs</li> <li>• After-school programs</li> </ul>
<b>Intervene to lessen immediate and long-term harms</b>	<ul style="list-style-type: none"> <li>• Enhanced primary care</li> <li>• Victim-centered services</li> <li>• Treatment to lessen the harms of ACEs</li> <li>• Treatment to prevent problem behavior and future involvement in violence</li> <li>• Family-centered treatment for substance use disorders</li> </ul>

# Conclusions

- All unhappy childhood are unhappy in their own way
- ACEs are undoubtedly have lifelong impact on both physical and mental health
- Child abuse and family violence are the two ACEs that have major adverse impact
- Understanding of psychopathology of the ACEs effect over health are increasingly complex but helps in developing more effective intervention and prevention strategies

# Conclusions

- We need to identify vulnerable children for early intervention and prevention
- Efforts are needed to increase access to and quality mental healthcare among children and adults affected by ACEs
- Adopting and implementing appropriate prevention strategy is an utmost need
- Further explanations of the issues related to ACEs warrant subsequent investigations



Thank you all