

# Psychological Impact of Motor Vehicle Crash: Preliminary findings from a territory-wide epidemiology study in Hong Kong

Kitty Wu, Ph.D.

President, Asian Society for Traumatic Stress Studies

*Convenor, Taskforce for the Epidemiology Study of PTSD in Hong Kong,  
Division of Clinical Psychology, Hong Kong Psychological Society*



亞洲創傷心理研究學會  
Asian Society for Traumatic Stress Studies



# Members & Collaborators for the study

## **Taskforce Members, DCP HKPS**

Convenor: Dr. Kitty Wu

Secretary: Ms. Philippa Yu

Treasurer: Ms. Jamie Cheng

Members:

Prof. Patrick Leung

Ms. Flora Leung

Ms. Betty Luk

Ms. Joey Lui

Ms. Jeanie Ngan

Ms. Rose Wong

Ms. Patsy Wong

Ms. Corine Wong (co-opt)

## **Collaborators, HKMMS & KCH**

Prof. Linda Lam

Dr. CC Lee

Dr. Patrick Kwong

Dr. Hung Se Fong

# BACKGROUND

POSTTRAUMATIC STRESS DISORDER  
(PTSD)

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**PTSD is a kind of Trauma- & Stressor-Related Disorders (DSM V, 2013)**

**Diagnostic criteria (apply to adults, adolescents & children > 6-yr old):**

**A. Exposure to actual or threatened death, serious injury, or sexual violence (direct experience / witness in person / learn that the trauma occurred to a close one)**

**B. Re-experiencing**

**children  $\geq$  6-yr old:**

- repetitive play expressing trauma theme
- frightening dreams w/o recognizable content

**C. Avoidance**

**D. Negative alterations in cognitions & mood**

**E. Hyperarousal**

**F. > 1 month**

**G. The disturbance causes clinically significant distress / impairment in social interaction, work or other important areas of functioning**

## **PTSD in pre-school children ( $\leq 6$ -yr old)**

- when a developmentally-sensitive set of criteria were used, approximately 3 to 8 times more children qualified for the diagnosis
- young children have emerging abstract cognitive & verbal expression capacities, thus, the criteria need to be more behaviorally anchored & developmentally sensitive
  - intrusive memories may not appear to be distressing & may be expressed as play reenactment
  - constriction of play

# How common is PTSD?

## Adult psychiatric morbidity in England, 2007

1<sup>st</sup> prevalence estimates of screening +ve for PTSD based on a large general population sample of adults in England  
(N = 7,461; aged  $\geq 16$ )

Edited by Sally McManus, Howard Meltzer, Traolach Brugha, Paul Bebbington, Rachel Jenkins. A survey carried out for The NHS Information Centre for health and social care by the National Centre for Social Research and the Department of Health Sciences, University of Leicester

## Screening

- Report of traumatic events at anytime in life
- Trauma Screening Questionnaire (TSQ) for screening of PTSD in the past week

## Experience of Trauma

- A third (**33.3%**) of people reported having experienced a traumatic event since the age of 16

## Probability of PTSD

- Overall, **3.0%** of adults screened +ve for current p-PTSD



# PRESENT STUDY DESIGN

COLLABORATION WITH HKMMS

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# HKMMS (3-YR POPULATION BASED STUDY)

- ~5700 Chinese adults (aged 16-75)
- Study period (2010 – 2013)

East Asian Arch Psychiatry 2014;24:30-6

Special Communication

## **The Hong Kong Mental Morbidity Survey: Background and Study Design**

### **香港精神健康调查：背景和研究设计**

LCW Lam, WC Chan, CSM Wong, EYH Chen, RMK Ng, EHM Lee, WC Chang, SF Hung, EFC Cheung, PC Sham, HFK Chiu, M Lam, TP Chiang, J van Os, JTF Lau, G Lewis, P Bebbington; The Hong Kong Mental Morbidity Survey Team

林翠华、陈伟智、黄秀雯、陈友凯、吴文建、李浩铭、张颖宗、熊思方、张复炽、沈伯松、赵凤琴、林明、蒋天宝、J van Os、刘德辉、G Lewis、P Bebbington; The Hong Kong Mental Morbidity Survey Team

**Today's focus:**

**p-PTSD  
& Traumatic life event (MVC)**

IDENTIFY EXPERIENCE OF  
TRANSPORTATION ACCIDENT  
IN THE STUDY

# LIFE EVENT CHECKLIST

## **3. Transportation Accident**

(e.g., car accident, boat accident, train wreck, plane crash)

**Any Serious Injury from MVC ?**

**When did the MVC occurred ?**

**Lifetime 1<sup>st</sup>-hand experience of TA  
(including childhood & adulthood)**



# DEFINITION OF P-PTSD +VE IN THE STUDY

p-PTSD case = (TSQ  $\geq$  6)



# PRELIMINARY FINDINGS (PHASE 1)

(UN-WEIGHTED)

17

# EXPERIENCE OF TA & OTHER TRAUMA

Comparison btw 3 groups

1. TA
2. Other LE
3. Nil LE

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## **Life Event Group**

**(TA / other LE / Nil LE) has  
significant contribution for the  
prediction of all the mental health  
indexes after demographic & social  
variables were controlled**

**~ BSS; BHS; SOFAS; CIS-R ~**

# Children's Impact of Event Scale – Rev (CIES-R)

Hong Kong J Psychiatry 2008;18:136-43

Original Article

## **Psychometric Properties and Confirmatory Factor Analysis of the Children's Impact of Event Scale–Revised (CHIES-R) for Child Survivors of Road Traffic Accidents in Hong Kong**

**兒童事件影響量表（修訂版）在量度道路交通事故兒童生還者  
之心理測量學特性及結構驗證性分析**

KK Wu, SK Chan, OH Hung, VW Cho

胡潔瑩、陳潔冰、洪凱揚、曹韻芝

## Participants

- Children (aged 7 – 17) who attended A&E after MVC (N = 61)

## Tools

- CIES-R (11-items)
- Revised Children's Manifest Anxiety Scale (RCMAS: 37-items)
- Children's Depression Inventory (CDI: 27-items)

## Time

- 1 month after the MVC

*Table 2. Item content and principal component analysis of the Children's Impact of Event Scale-Revised: 3-factor solution.*

Item No. / content	Factor 1 Intrusion	Factor 2 Hyperarousal	Factor 3 Avoidance
8. I had trouble falling asleep	<b>0.83</b>	0.19	0.15
13. I had dreams about it	<b>0.80</b>	0.16	0.13
9. I had waves of strong feelings about it	<b>0.62</b>	0.50	0.33
3. I thought about it when I didn't mean to	<b>0.53</b>	0.28	0.49
2. I felt irritable and angry	0.18	<b>0.81</b>	0.29
6. I was jumpy and easily startled	0.19	<b>0.79</b>	0.27
11. I had trouble concentrating	0.55	<b>0.64</b>	0.03
10. I tried to remove it from my memory	0.12	0.35	<b>0.77</b>
4. I stayed away from reminders about it	0.38	0.51	<b>0.74</b>
15. I tried not to talk about it	0.50	-0.22	<b>0.60</b>
5. Pictures about it popped into my mind	0.47	0.37	<b>0.58</b>

# CIES-R / RCMAS / CDI

## PTSD / Anxiety / Depression

	CIES-R			
	Intrusion	Hyperarousal	Avoidance	Total
RCMAS – Worry / Oversensitivity	0.44**	0.62***	0.42*	0.55*
CDI – Negative Mood	0.27	0.42**	0.36*	0.38*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

# Conclusions

- 1. ~17% of the HK adult population has TA experience**
- 2. TA like other traumatic experience was associated with higher p-PTSD; higher psychological distress; lower psycho well-being**
- 3. Impact of TA affects all ages**
- 4. -ve impact of MVC also applies to children**



Thank you