

What have three decades of veterans research taught us?

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**Soldiers following deployment:
epidemiology, prevention, and
treatment of mental health problems**

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Israel as a natural stress lab

- Traumatized soldiers - CSR
- Ex-POWs
- Decorated heroes
- Holocaust survivors
- Spouses and offspring of the traumatized
- Civilians Palestinians & Israelis facing war and terror (gender, age)
- Rescue workers and helping professionals



Issues

- Longitudinal course and trajectories of PTSD
- PTSD and co-morbidity
- Self rated health somatic complaints, diseases and mortality
- Social functioning in the family, community and work
- Risk and protective factors
- Effectiveness of interventions



- Study 1:

- Traced the 20 year longitudinal course of combat-induced PTSD in a representative sample of CSR casualties and matched controls. Assessments conducted 1,2,3 and 20 years after the 1982 Lebanon War.

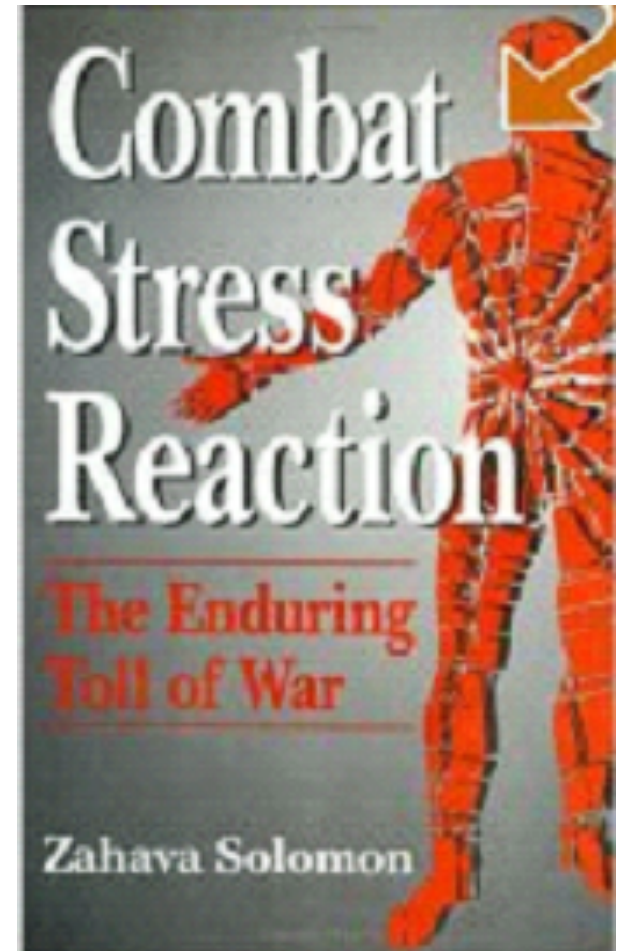
- Study 2:

- Ex-Pows and controls of the 1973 Yom Kippur War assessments 18 and 30 years after captivity

The Lebanon Follow-up study

CSR casualties (n=382) and
matched controls (n=334)

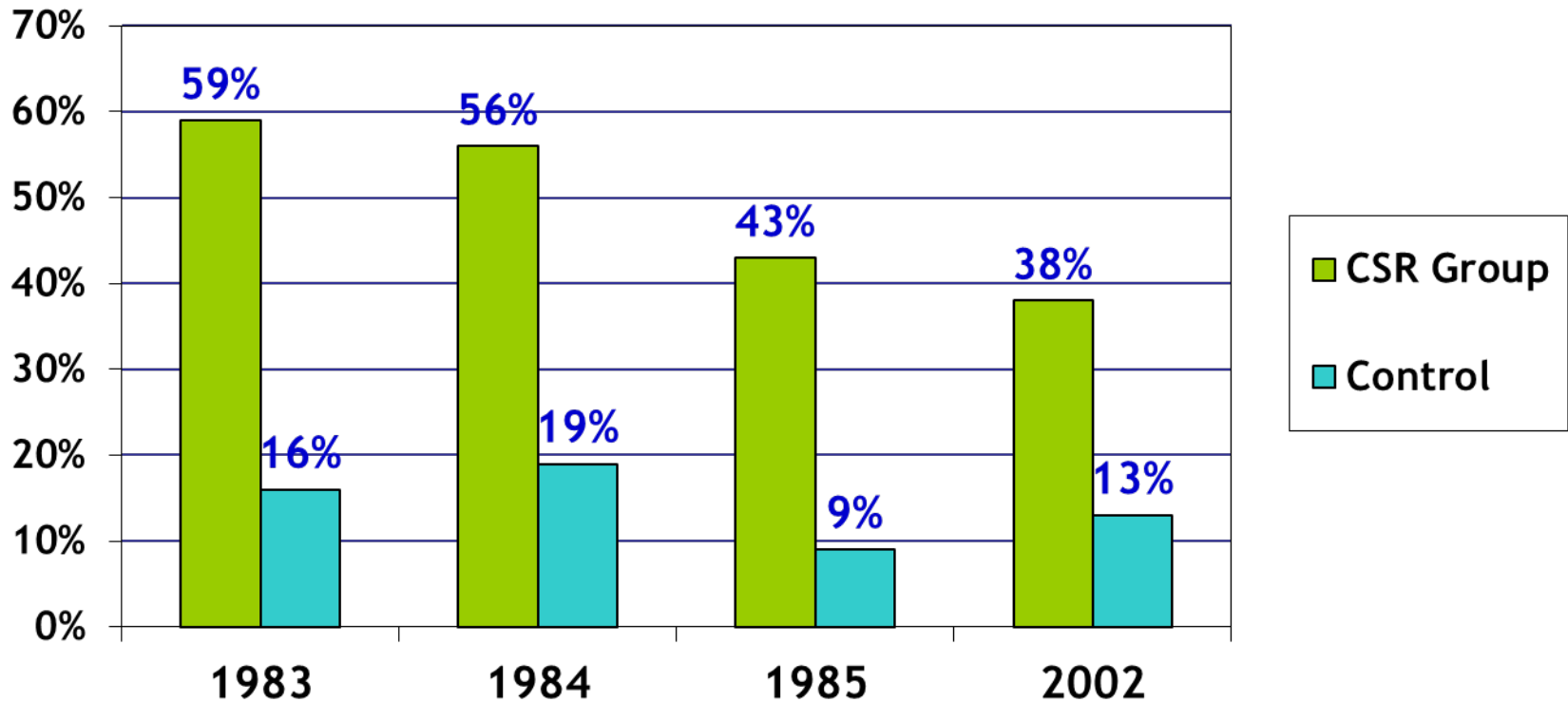
- Solomon, 1993 Plenum, N.Y
- Solomon and Mikulincer AJP, 2006





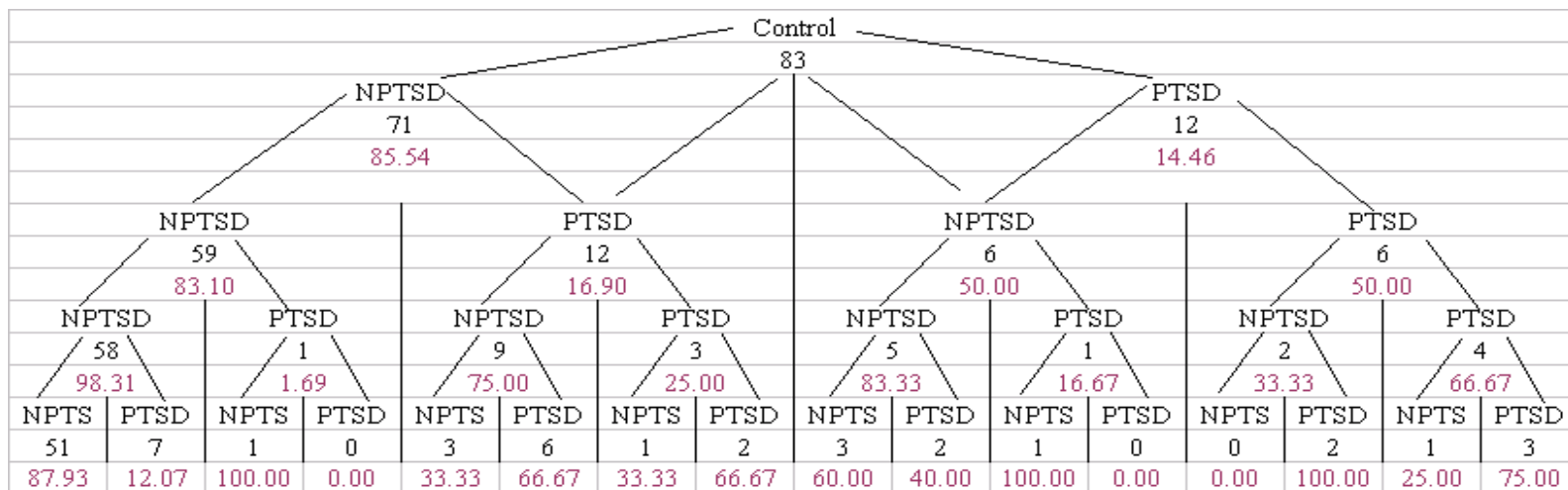
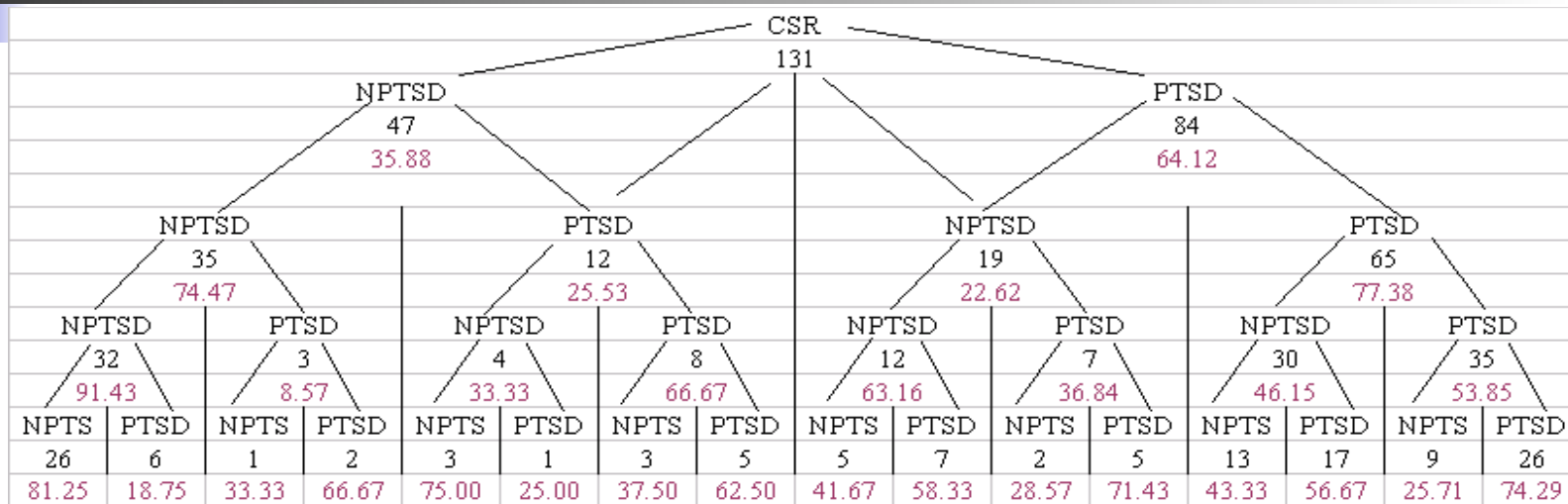
Does the war end when the
shooting stops?

Rates of PTSD by study group and time of assessment II



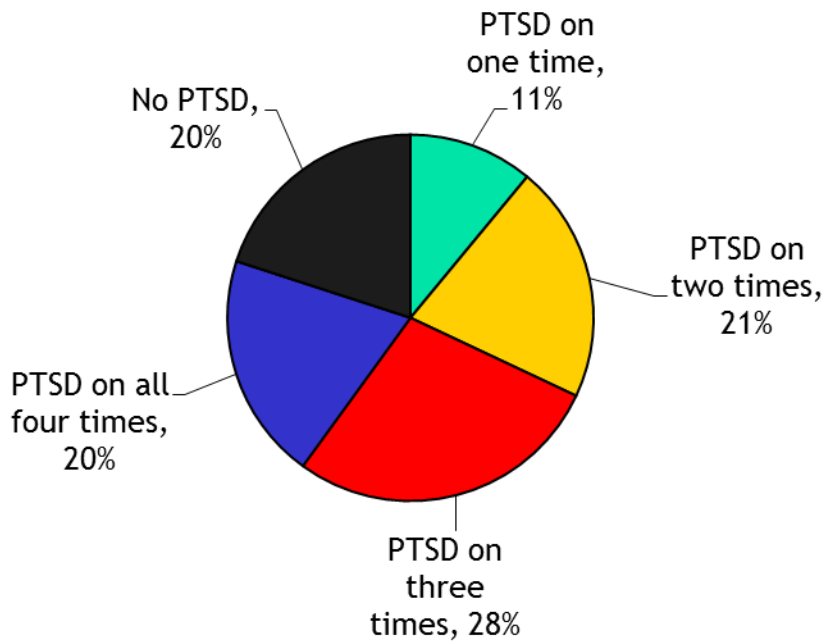
Solomon & Mikulincer, AJP, 2006

Trajectories of PTSD by study group

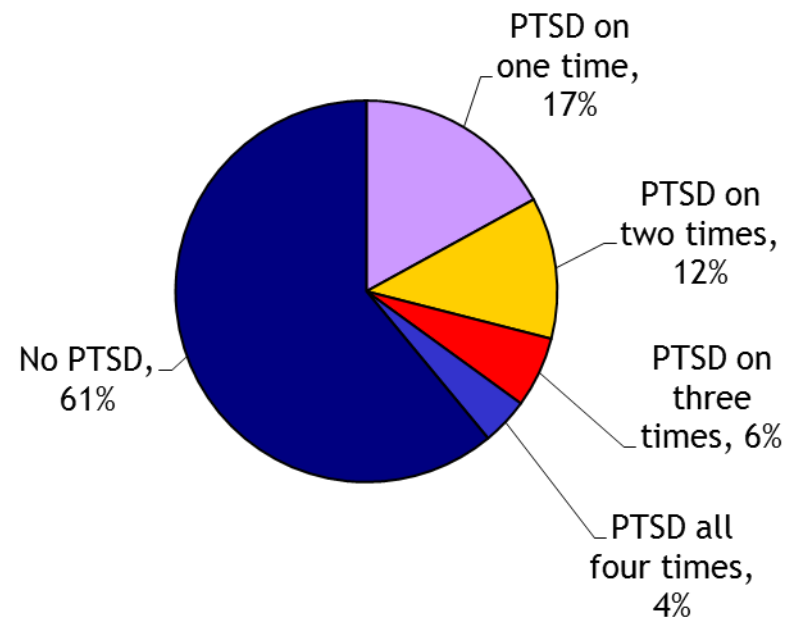


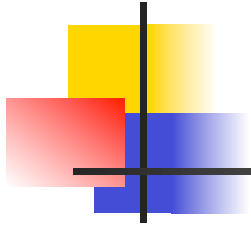
Percentage of veterans Diagnosed as Suffering from PTSD, by times of study

CSR Group



Non- CSR Group





-
- Is delayed onset PTSD a real entity
A valid diagnosis ?



Delayed-onset PTSD

- Delayed-onset PTSD occurs when symptoms first appear at least 6 months following the traumatic event APA, 1994.
- Delayed-onset PTSD was endorsed by **23.8%** of non-CSR subjects and **16.1%** of CSR casualties.

[Solomon & Mikulincer, AJP, 2006]

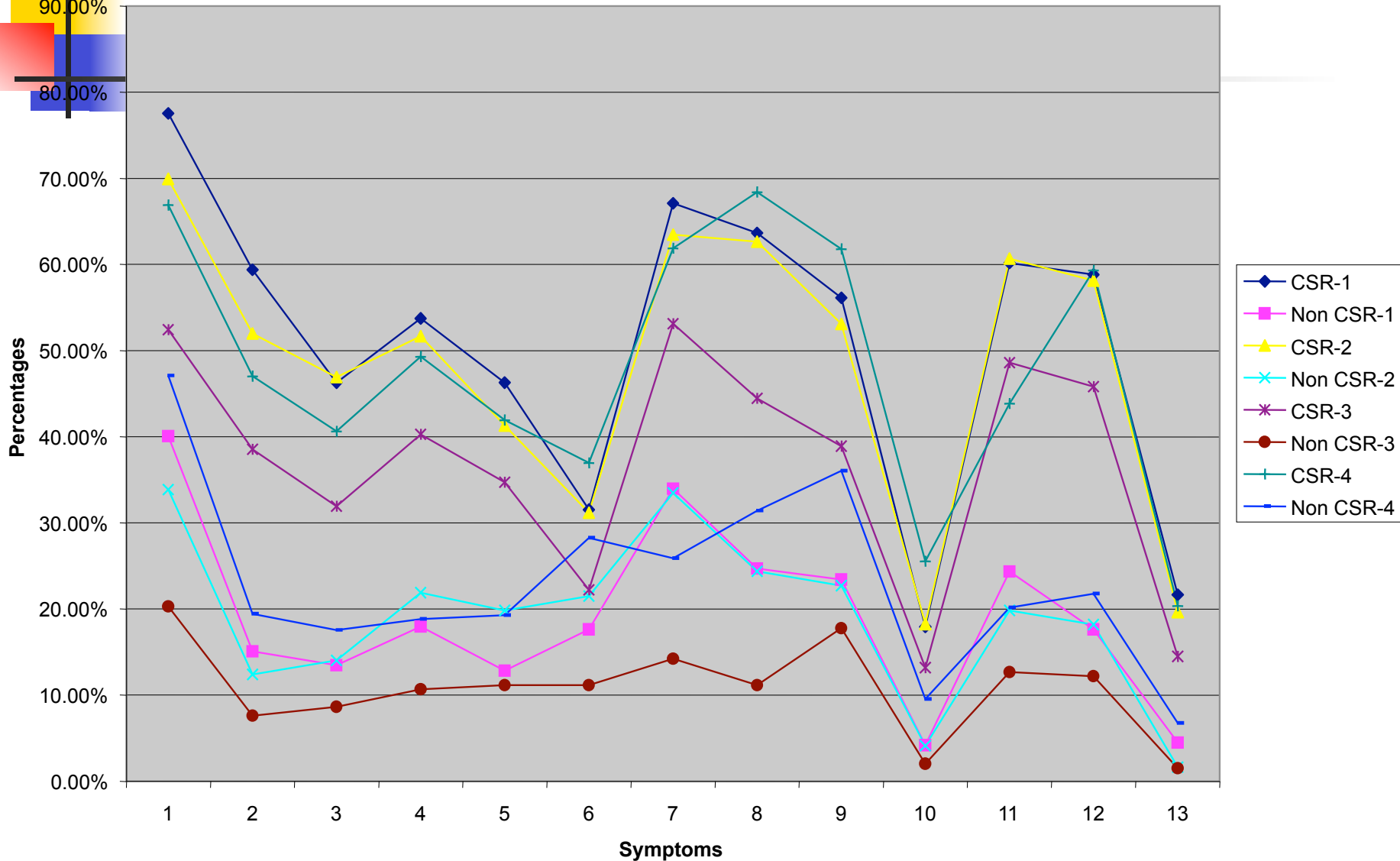


PTSD symptoms wax and wane

- Intrusion and avoidance declined over the 4 waves in both CSR and non-CSR veterans.
- Across time, veterans with antecedent CSR reported higher levels of both intrusion and avoidance than controls.
- These findings provide evidence that CSR has long-term consequences in the form of posttraumatic symptoms of intrusion and avoidance.

[Solomon & Mikulincer, JCCP, 2007]

Symptom Profile by Group & Time





CSR, PTSD and Co-morbidities

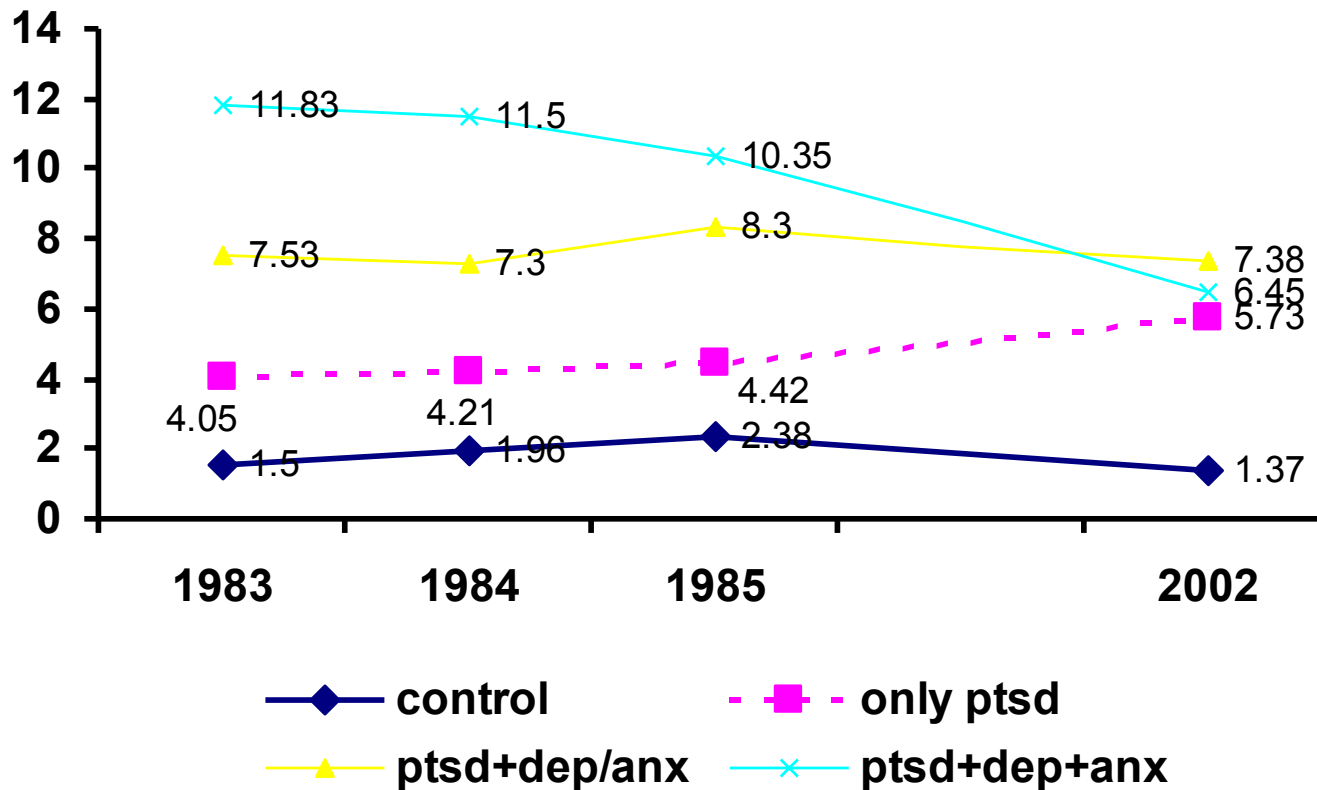
- CSR associated with **higher** rates of comorbidity (depression, anxiety, OCD) than non-CSR group.
- In the PTSD group very high rates of comorbid depression (81%) and anxiety (69.7%) Vs. the non-PTSD group 15.5% to 29.5%.



Social functioning among veterans

- Across all 4 points, CSR veterans reported more impairment, in functioning than non-CSR veterans (work, social relationships).
- Solomon & Mikulincer, 2007

Co-morbidity and social functioning





Physical Health

- 20 years after the war, both CSR and PTSD were associated with:
 - Impaired self-rated health
 - Chronic diseases (e.g., Diabetes)
 - Physical symptoms (pains and aches)
 - risk behaviors (e.g., cigarette smoking)

[Benyamini & Solomon, 2005]



Changes in physical health over time

- The number of reported health problems was significantly **higher** at time 4 than at earlier waves of measurement.
- The severity of somatic symptoms increased with time



As years goes by: The subjective feelings of getting older

- Veterans with **PTSD** - both CSR and Non CSR - reported stronger feelings and looking **older**, as compared to Non-PTSD veterans.
- PTSD and physical health especially memory, hypertension and weight problems are the strongest predictors of subjective feelings of feeling and looking old.



CSR casualties are at increased risk for:

- PTSD
- Co-morbidities anxiety/depression
- Professional, social and sexual dysfunction
- Disease and accelerated aging



Is CSR a transient reaction?

- 20 years after the war, veterans with antecedent CSR reported more PTSD, psychiatric symptomatology, distress, social dysfunction, and health problems than did non-CSR veterans.
- **CSR should be seen as a strong marker for long-term distress and impairment.**
- In addition, the implications of combat-related trauma are broad and varied, and go beyond the narrow scope of PTSD.

[Solomon, Shklar, Singer, & Mikulincer, JNMD, 2006]

Study 2

PTSD FOLLOWING CAPTIVITY:

18 and 30 years follow-up of Israeli Ex-POWs





Stressors of Captivity

- Solitary confinement
- Harsh physical conditions
- Brutal torture
- Oppression and humiliation
- Interrogations





Study's aims

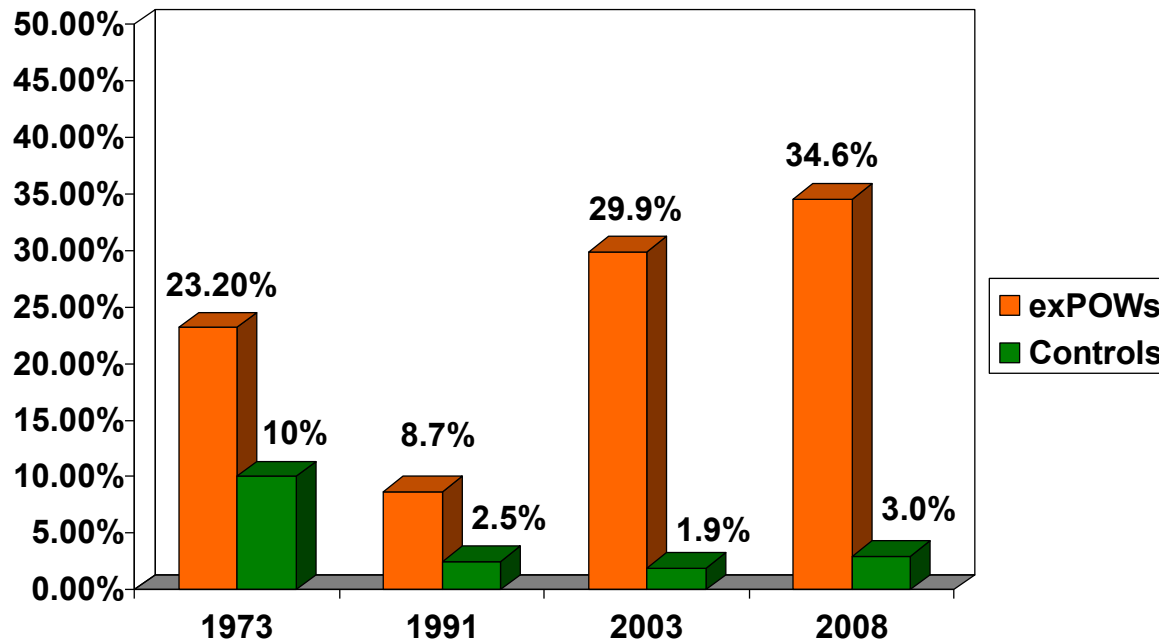
- To assess prevalence and course and trajectories of PTSD and co-morbidities among ex-POWs over time.
- To identify correlates and predictors of current distress and resilience.



Ex-POW longitudinal study

- Target population: All land-force ex-POWs of the 1973 Yom Kippur war
- Same outcome measures to allow comparisons
- 3 waves of measurement 18, 30 and 35 years post captivity

PTSD Rates over time



- PTSD was more prevalent among ex-POWs than controls at all waves (u shape curve)

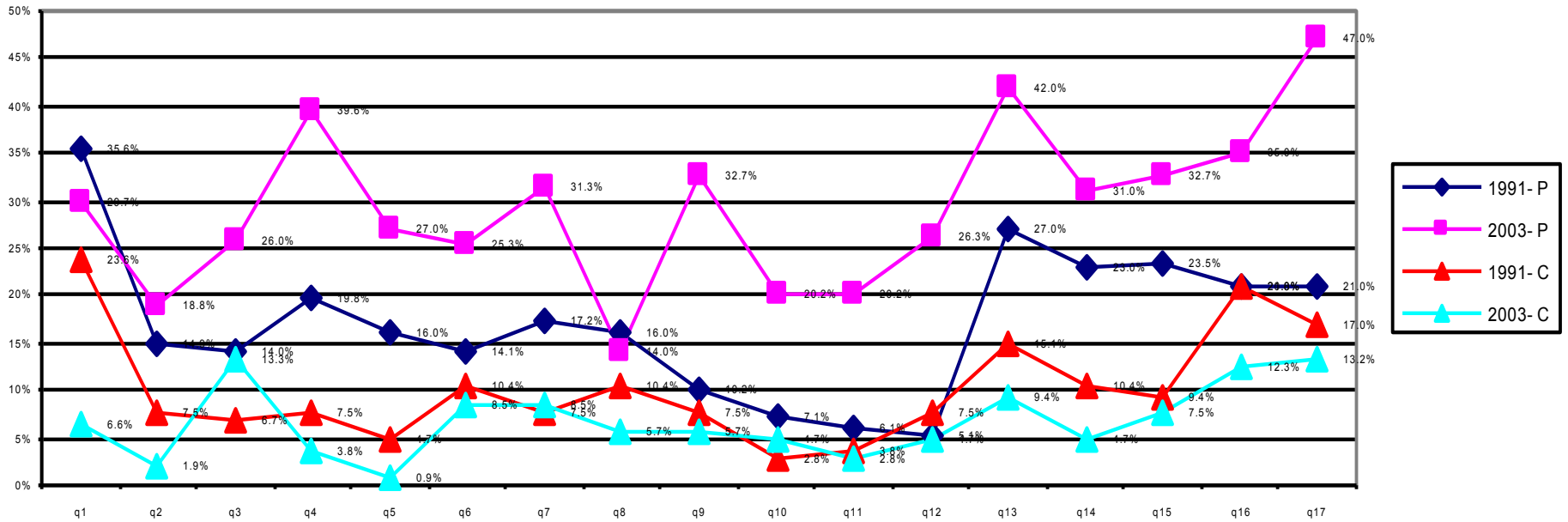


PTSD symptoms severity

- Ex-POWs PTSD symptoms and **severity increased with time.**
- Controls showed no significant increase in neither total number of PTSD symptoms nor in any symptom cluster.

PTSD symptom profile

POWs/Controls





Why do PTSD rates increase ?

- Aging process.
- Threat of war and terror in Israel (2nd Intifada).
- Possible U-curve pattern with high PTSD rates immediately following captivity followed by gradual decline and from mid-life a rise in rates (Port et al., 2001).



Complex PTSD

- Type 1-single traumatic event.
- Type 2-repeated exposure ,man-made.



DESNOS

1. Alternations in regulation of affect and impulses
exPOW 32.7% VS control 9.1%
2. Alternations in Attention or Consciousness
exPOW 24.7% VS control 6.8%
3. Alternations in self perceptions
exPOW 34.2% VS control 6.8%



DESNOS

4. Alternations in relations with others
exPOW 59.3% VS control 31.1%
5. Symptoms of somatization
exPOW 46.4% VS control 19.3%
6. Alterations in system of meanings
exPOW 53.1% VS control 17.8%



Complex PTSD (Attachment)

- In ex-POW's avoidance and anxious attachment increased during the 12 year interval between the 2 assessments .
- In controls no such changes were observed.



PTSD Trajectories - symptoms wax and wane

4 trajectories were identified :

- Resilient (27% POWs)vs (89% controls)
- Delayed onset(**67%** POWs)
- Recovered
- Chronic



Psychiatric co-morbidity

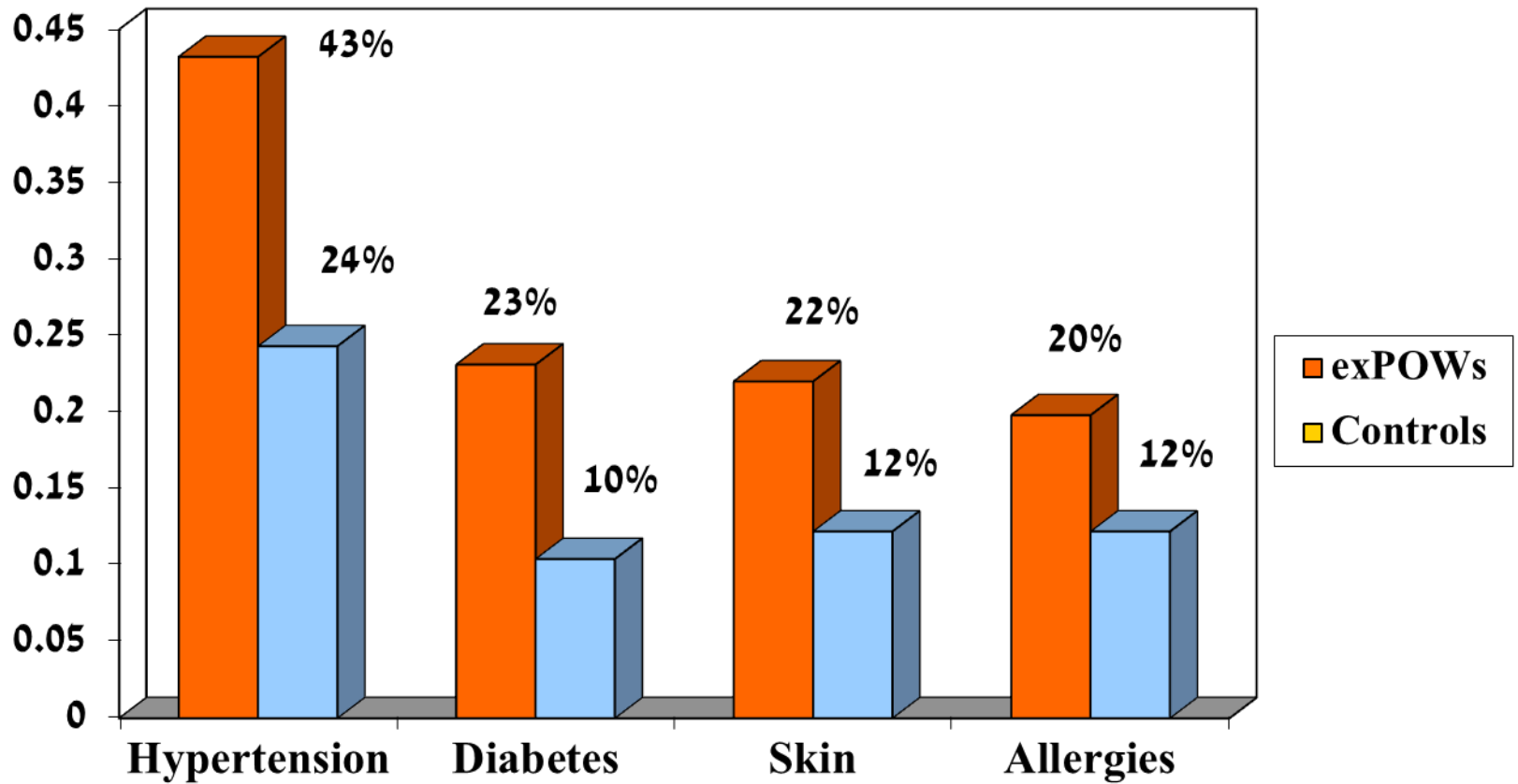
- High rates of comorbidity particularly depression ,OCD , anxiety
- Co-morbidity implicated in greater distress and impaired functioning



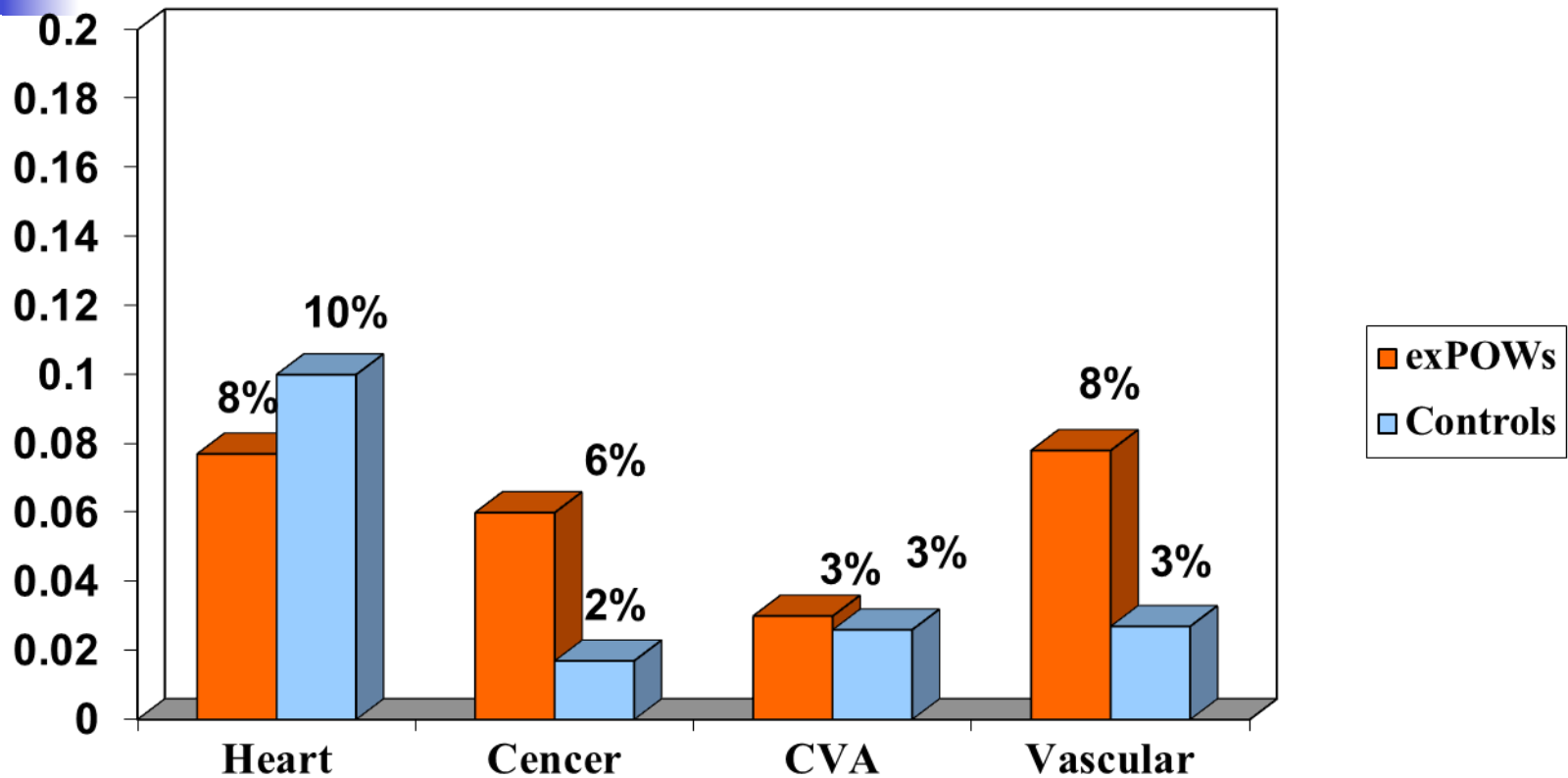
Somatic Health effects

- Stress of captivity liken to cancer as it metastasizes and affects health.
- The traumatized report lower self rated health, more diseases, catastrophization, increased medical services utilization and pre mature aging.

Morbidity



Morbidity rates in exPOWs





Morbidity rates in exPOWs

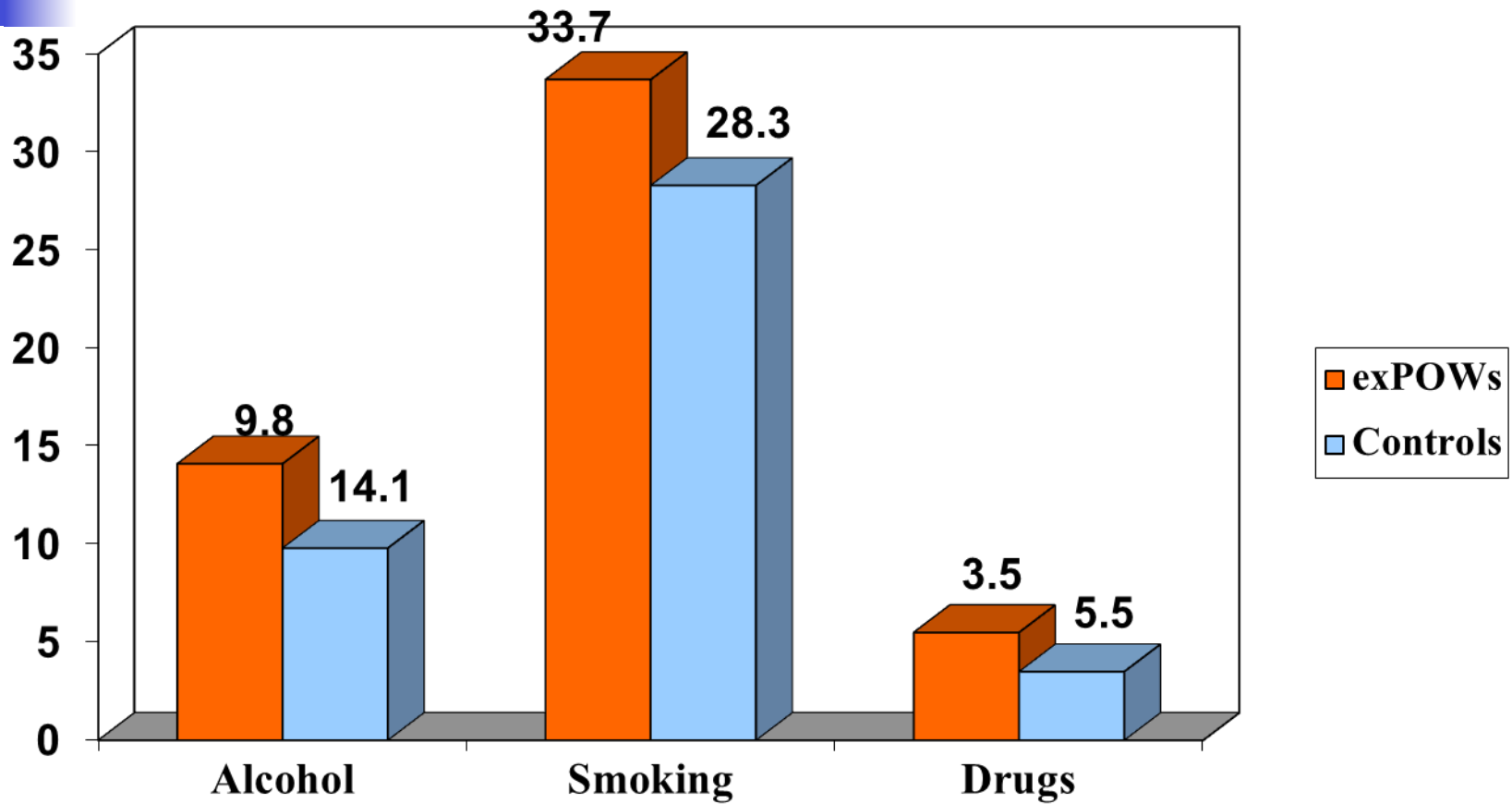
- Comparisons with MOH national data revealed that exPOWs have higher rates than national statistics adjusted for gender and age (2 folds).
- Most cases exPOWs without family history.



Mortality rates

- 35 years post captivity mortality rate was **4 times** higher in exPOWs than controls

Health risk behaviors





Impaired Functioning

- Only 50% of exPOWs employed (vs 67%).
- 80% report interpersonal difficulties at work.
- 70% reported that their difficulties undermine their social ties.
- Considerable sexual difficulties.



Pain tested in lab

- Chronic pain was more prevalent (86.6%) in exPOWs than controls .exPOWs also exhibited higher suprathreshold pain ratings, catastrophization and other stronger pain indicators than controls.
- Defrin et al (2013)



Salutogenic outcomes -PTG

- Positive changes were 1.6 times More prevalent than negative changes.
- 96.4% of Ex-POWs reported some positive changes in their lives since captivity, 75% of them perceived these changes as highly extensive.
- Positive changes included: increased insight, maturity, self-esteem, optimism, satisfaction in family life, and ability to differentiate the important from the trivial.



Post Traumatic Growth

- Similarly when assessed via PTG exPOWs endorsed more Posttraumatic growth than controls
- PTG correlated with PTSD

Why is their distress so entrenched ?

- Accumulation of stressors
- Interpersonal trauma
- Physical hardships compounded by humiliation and mental anguish





Costs and challenges

- Enormous suffering-ripple effects
- Considerable loss of resources
(workplace, compensation, rehabilitation)

THANK YOU!



***“And the wolf will dwell
with the lamb, And the
leopard will lie down with
the young goat, And the
calf and the young lion
and the fatling together;
And a little boy will lead
them”***

Isaiah 11:6