Meta-Analysis of Treatment Outcome in Sexual Offenders

R. Karl Hanson, Ph.D.
Senior Research Scientist
Public Safety Canada
Karl.hanson@ps-sp.gc.ca

IATSO Oslo, September 3, 2010
THE RELATION OF ORAL INFECTION TO MENTAL DISEASES

HENRY A. COTTON

New Jersey State Hospital, Trenton

CONTENTS

Introduction .......................................................................................................................... 269
Types of dental infection ..................................................................................................... 271
  Influence of unerupted third molars ........................................................................... 273
Bacteriology of dental infection ......................................................................................... 279
Secondary foci of infection ................................................................................................. 284
General considerations on nervous and mental diseases .................................................. 286
Methods of examination and treatment ........................................................................... 290
  1. Complement-fixation test of the blood for Streptococcus viridans ......................... 291
  2. Examination of the teeth ......................................................................................... 291
  3. Infected tonsils ........................................................................................................ 293
  4. Gastro-intestinal tract ............................................................................................. 293
Results of the work at the State Hospital at Trenton ....................................................... 296
Report of cases ................................................................................................................. 301
Literature cited .................................................................................................................. 313

INTRODUCTION

It is with a certain amount of hesitation that one proclaims an apparently new fact in medicine, especially when such a fact seems to be entirely fanciful to the majority of professional men, both physicians and dentists, who naturally are highly skeptical regarding new methods and new findings. In presenting this subject to the
THE PRINCIPLES OF EFFECTIVE CORRECTIONAL TREATMENT ALSO APPLY TO SEXUAL OFFENDERS

A Meta-Analysis

Evidence for Effectiveness of Sexual Offender Treatment

- Many evaluation studies, starting in 1960s
- Reviews - mostly supportive
- Many different treatment programs
- Few high quality studies
Gallagher et al. (1999)

- 22 studies (25 effects)
- Yes for cognitive-behavioural treatment
- No for other psychological or hormonal treatment
- Included several studies with weak designs
Hanson et al. (2002)

Collaborative Outcome Data Project
Meta-analysis
43 Studies – 9,454 Offenders

- Half published (49%)
- 1977 – 2000 (mostly late 1990s)
- Moderate size \( n = 180 \)
- American (49%) or Canadian (37%)
- Adult males (91%)
Overall Effect of Treatment

Reductions in both sexual recidivism (17% to 10%) and general recidivism (51% to 32%) found when current treatments are evaluated with credible designs.
Lösel & Schmucker (2004)

- 9,512 treated; 12,669 comparison
- A positive treatment effect on sexual and other reoffending
- Cognitive-behavioural programs more effective than other psychosocial approaches
Kenworthy et al. (2004)

- Cochrane Library
- Random assignment studies
- 9 studies
- Various outcomes (3 used recidivism)
Insufficient evidence of efficacy

“The ethics of providing this still-experimental treatment to a vulnerable and potentially dangerous group of people outside of a well-designed evaluative study are debatable”
Why the controversy?

- Few good studies
- Most look at treatments inconsistent with current practice
- Only one strong study of a credible treatment

Good study, plausible treatment, and No effect on recidivism
History of Offender Treatment

• Many studies; lots of variability

• Martinson (1974) “Nothing works”

• “What Works”
  – Lipsey (1989)
  – Andrews, Zinger et al. (1990)
  – Andrews, Bonta, Gendreau, Dowden
Sanctions or Service?

Sanctions:
2003: $r = -0.03$
($k = 101$)

Service:
2003: $r = +0.12$
($k = 273$)
Effective Correctional Interventions
Andrews & Bonta (2006)

- Risk
  - Treat only offenders who are likely to reoffend (moderate risk or higher)
- Need
  - Target criminogenic needs
- Responsivity
  - Match treatment to offenders’ learning styles and culture
Results Stable Across Studies

• Same results found in randomized clinical trials and non-random assignment studies (except those with obvious biases)

• Meta-analytic findings replicated by independent groups
Criminogenic Needs

- Antisocial Personality
  - Impulsive, adventurous pleasure seeking, restlessly aggressive, callous disregard for others
- Grievance/hostility
- Antisocial associates
- Antisocial cognitions
- Low attachment to Family/Lovers
- Low engagement in School/Work
- Aimless use of leisure time
- Substance Abuse
Non-criminogenic needs (general recidivism)

- Personal distress
- Major mental disorder
- Low self-esteem
- Low physical activity
- Poor physical living conditions
- Low conventional ambition
- Insufficient fear of official punishment
Criminogenic Needs for Sexual Offenders

- Deviant sexual interests
  - Children; Paraphilias
- Sexual preoccupations
- Antisocial orientation
  - Lifestyle instability, rule violation, APD
- Attitudes tolerant of sexual assault
- Intimacy deficits
  - Emotional identification with children
  - Lack of stable love relationships
**Adherence to Risk/Need/Responsivity**

<table>
<thead>
<tr>
<th>Not at all</th>
<th>-.02 (124)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One element</td>
<td>.03 (106)</td>
</tr>
<tr>
<td>Two elements</td>
<td>.17 (84)</td>
</tr>
<tr>
<td>All three</td>
<td>.25 (60)</td>
</tr>
</tbody>
</table>

General offenders – general recidivism
Do the same principles apply to sexual offender treatment programs?
Sex Offender Treatment Meta-analysis
Updated 2009

• Met minimum criteria for study quality
  – Collaborative Date Outcome Committee (CODC) Guidelines Definition:
  – High Confidence that the findings had no more than minimal bias
• 25 of 130 studies rated “weak or better”
  – Rejected (105)
  – Weak (19)
  – Good (5)
  – Strong (1)
• 2 studies excluded for other reasons
23 Studies

- 61% published (1983 – 2009)
- 22 English; 1 French
- Canada (12), US (5), UK (3), New Zealand (2), Netherlands (1)
- Institution (10); Community (11); Both (2)
- Treatments delivered: 1965 - 2004
Example: treatment works

![Graph showing the relationship between Control Group and Treatment Group. The graph includes a line and a point indicating the treatment works.]
Example: treatment does not work
Example: treatment really does not work
Treatment Outcome Studies (k = 22) Sexual Recidivism

<table>
<thead>
<tr>
<th>Odds Ratio</th>
<th>Lower CI</th>
<th>Upper CI</th>
<th>Q</th>
<th>Study N</th>
</tr>
</thead>
<tbody>
<tr>
<td>.77</td>
<td>.65</td>
<td>.91</td>
<td>47.17***</td>
<td>6,746</td>
</tr>
</tbody>
</table>
"Better" Studies (k = 5) Sexual Recidivism

<table>
<thead>
<tr>
<th>Odds Ratio</th>
<th>Lower CI</th>
<th>Upper CI</th>
<th>Q</th>
<th>Study N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.94</td>
<td>0.74</td>
<td>1.20</td>
<td>14.09**</td>
<td>1,590</td>
</tr>
</tbody>
</table>
Adherence to R/N/R

- Risk: Sometimes (8/23)
- Need: Sometimes (10/23)
- Responsivity: Most programs (19/23)
## Effect Size By R/N/R Adherence

<table>
<thead>
<tr>
<th></th>
<th>Odds ratio</th>
<th>95% C.I.</th>
<th>N (k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1.10</td>
<td>(.81-1.50)</td>
<td>1,067 (3)</td>
</tr>
<tr>
<td>One</td>
<td>0.64</td>
<td>(.42 -.92)</td>
<td>1,226 (7)</td>
</tr>
<tr>
<td>Two</td>
<td>0.74</td>
<td>(.58-.93)</td>
<td>4,283 (9)</td>
</tr>
<tr>
<td>All three</td>
<td>0.22</td>
<td>(.089-.57)</td>
<td>170 (3)</td>
</tr>
</tbody>
</table>
Low Adherence to R/N/R (k = 10)

Comparison Group

Treatment Group

<table>
<thead>
<tr>
<th>Odds Ratio</th>
<th>Lower CI</th>
<th>Upper CI</th>
<th>Q</th>
<th>Study N</th>
</tr>
</thead>
<tbody>
<tr>
<td>.88</td>
<td>.69</td>
<td>1.13</td>
<td>10.43</td>
<td>10 (2,293)</td>
</tr>
</tbody>
</table>
Some Adherence to R/N/R (k = 12)

<table>
<thead>
<tr>
<th>Odds Ratio</th>
<th>Lower CI</th>
<th>Upper CI</th>
<th>Q</th>
<th>Study N</th>
</tr>
</thead>
<tbody>
<tr>
<td>.69</td>
<td>.55</td>
<td>.86</td>
<td>34.58***</td>
<td>12 (4,453)</td>
</tr>
</tbody>
</table>
## Effect Size By R/N/R Adherence

### High Risk Offenders

<table>
<thead>
<tr>
<th></th>
<th>Odds ratio</th>
<th>95% C.I.</th>
<th>N (k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>0.48</td>
<td>(.21-1.11)</td>
<td>853 (7)</td>
</tr>
<tr>
<td>No</td>
<td>0.72</td>
<td>(.53 - .97)</td>
<td>5,893 (15)</td>
</tr>
</tbody>
</table>
## Effect Size By R/N/R Adherence

### Mainly Criminogenic Needs

<table>
<thead>
<tr>
<th></th>
<th>Odds ratio</th>
<th>95% C.I.</th>
<th>N (k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>0.45</td>
<td>(.27 - .75)</td>
<td>4,091 (9)</td>
</tr>
<tr>
<td>No</td>
<td>0.86</td>
<td>(.60 - 1.21)</td>
<td>2,655 (13)</td>
</tr>
</tbody>
</table>
## Effect Size By R/N/R Adherence Responsivity

<table>
<thead>
<tr>
<th></th>
<th>Odds ratio</th>
<th>95% C.I.</th>
<th>N (k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>0.57</td>
<td>(.40 - .80)</td>
<td>5,358 (18)</td>
</tr>
<tr>
<td>No</td>
<td>1.05</td>
<td>(.69 - 1.61)</td>
<td>1,388 (4)</td>
</tr>
</tbody>
</table>
Directions for Sexual Offender Treatment

- Carefully consider the extent to which programs adhere to RNR principles
- In particular, are most of treatment efforts directed towards criminogenic needs?
Directions for Future Research

• Better Studies
  – Random assignment

• Good measures of intermediate targets
  – Theoretically justified
  – Empirically related to outcomes of interest
  – Non-arbitrary scaling
Copies/Questions

Sandra.Hadden@ps-sp.gc.ca
Karl.Hanson@ps-sp.gc.ca

www.publicsafety.gc.ca
Look under “corrections research publications”