Addiction treatment services and research, research cooperation and training in Germany and Europe with a focus on gambling disorders

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Seoul, Republic of Korea, 08 January 2015
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1. Germany

Capital: Berlin
Area: 357 168 km²
Population: 80 716 000

3.4m AUD (6.5%)
8.0m Risky AU (14.2%)
0.5m CUD (1%)
0.25m GD (0.5%)
1. Germany

1.1 Treatment service structure I

<table>
<thead>
<tr>
<th></th>
<th>Outpatient</th>
<th>Inpatient</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Total</td>
<td>1402</td>
<td>364</td>
</tr>
<tr>
<td>(2) Sample (2013)</td>
<td>822</td>
<td>200</td>
</tr>
<tr>
<td>(3) Ownership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>charity</td>
<td>88%</td>
<td>57%</td>
</tr>
<tr>
<td>public</td>
<td>9%</td>
<td>13%</td>
</tr>
<tr>
<td>commercial</td>
<td>4%</td>
<td>30%</td>
</tr>
<tr>
<td>(4) Staff</td>
<td>social workers, physicians, psychologists</td>
<td></td>
</tr>
<tr>
<td>(5) Cases (yr.)</td>
<td>334 000</td>
<td>47 000</td>
</tr>
</tbody>
</table>
## 1. Germany

### 1.1 Treatment service structure II

<table>
<thead>
<tr>
<th></th>
<th>Outpatient</th>
<th>Inpatient</th>
</tr>
</thead>
<tbody>
<tr>
<td>(6) Diagnoses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>53%</td>
<td>73%</td>
</tr>
<tr>
<td>Opioids</td>
<td>16%</td>
<td>7%</td>
</tr>
<tr>
<td>Cannabis</td>
<td>14%</td>
<td>6%</td>
</tr>
<tr>
<td>Gambling</td>
<td>6%</td>
<td>3%</td>
</tr>
<tr>
<td>Others</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>(7) Age (yrs.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Opioids</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Gambling</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>(8) Characteristics</td>
<td></td>
<td>high unemployment high comorbidity low education</td>
</tr>
<tr>
<td>(9) Treatment duration (m)</td>
<td>6-8</td>
<td>2-3</td>
</tr>
<tr>
<td>(10) Regular discharge</td>
<td>50-65%</td>
<td>55-85%</td>
</tr>
</tbody>
</table>
1. Germany

1.2 Monitoring needs, services and outcome

(1) National population surveys
   - age: 14-25 (since 1973) and 18-64 (since 1980)
   - monitoring: disorders, needs, trends and policies/opinions

(2) National treatment monitoring system
   - about 1000 facilities
   - monitoring: facility characteristics, staff, patient characteristics, interventions, outcome
   - annual regional and national reports

(3) Utilization (examples)
   - demonstration projects to improve services
   - implementation of new taxes, other youth protection measures
   - interventions for intoxicated adolescents
   - improved funding
1. Germany

1.3 Research capacity building I

(1) Aim: to develop a competitive addiction research structure in Germany
(2) First research funding programme 1994 - 1998
   • topic: etiology, to provide better basis for prevention and treatment
   • 10 research networks and 18 single projects
   • funding: 24 million Euros
(3) Second research funding programme 2004 – 2010
   • topic: to provide improved treatment options
   • 4 large research networks
   • 2 new chairs of addiction research
   • funding: 18 million Euros
(4) Currently about 10 university based, decentralized research structures
(5) Since 2010: addiction research funding via regular science funding
1. Germany

1.3 Research capacity building II

(6) European Graduate School of Addiction Research (ESADD)

- aim: to promote excellence in addiction research
- based at the University of Dresden (since 2008)
- participants: doctoral students with a theses in addiction research
- students continue to work at their home university
- 6 one-week seminars in Amsterdam, Barcelona and Dresden
- interactive homework
- research stay in a foreign research group
- topics:
  - etiology, neurobiology, disease patterns
  - epidemiology, prevention, treatment
  - public health, policy
  - academic skills
- final examination
- duration: 2 years
1. Germany

1.3 Research capacity building III

European Graduate School of Addiction Research (ESADD)
Overview Participants ESADD 1-3 (N=45)
1. Germany

1.4 Gambling research topics I

(1) Etiology

- genetic influence
  - impaired reward systems: e.g. dopamine, serotonin, opioid system
- personality traits
  - impulsivity, sensation seeking
- learning impairments
  - increased reward seeking
  - decreased learning from negative consequences
- cognitive impairments
  - impaired cognitive control
  - dysfunctional decision making
  - impaired conflict monitoring
- impaired motivation
  - increased, related to gambling stimuli: e.g. attentional bias
  - decreased, related to other stimuli
1. Germany

1.4 Gambling research topics II

(2) Epidemiology
   • population figures, trends
   • risk probabilities (compared to substances)
   • clinical monitoring: cases, interventions, outcome

(3) Treatment research
   • early interventions
   • online interventions

(4) Policy research
   • impact of regulations
   • prevention-oriented regulations
2. European Union

14m AUD ♂ (9.1%)
6m AUD ♀ (2.0%)
96m TobU (32%)
18m CU (5.3%)
3m CocU (0.9%)
1.5m AmphU (0.4%)
1.3m OpU (0.4%)
1.5m GD (0.5%)

Capital: Brussels
Area: 4 381 376 km²
Population: 507 416 607
2. European Union

2.1 EU programme: alcohol

EU alcohol strategy (since 2006)

(1) Alcohol-related burden
   - 7.4% premature death cases
   - 10% (female) resp. 25% (male) of mortality cases in age 15-29
   - 10,000 deaths in alcohol-related traffic accidents

(2) Five priority themes/ ten aims
   - protect young people, children and unborn child
   - reduce injuries/death from traffic accidents
   - reduce alcohol-related harm/death among adults in general and at the workplace
   - raise awareness on negative consequences and on appropriate consumption patterns
   - develop/maintain a common evidence base

(3) Actions by EU and MS
   - e.g., Action Plan on youth drinking and heavy episodic drinking 2014-2016

→ Need for research!
2. European Union

2.2 EU programme: tobacco

EU approved WHO Framework Convention on Tobacco Control (FCTC) (since 2005)

(1) Tobacco-related burden
- 30% smokers
- 0.7m death cases (16%)
- 13m serious diseases
- 50% of all smokers die prematurely (14 yrs earlier)

(2) Eight guidelines
- protection of tobacco control against commercial interest
- price and tax measures
- protection of exposure
- content of products
- packaging and labeling
- education and public awareness
- advertising and promotion
- demand reduction measures

→ Need for research!

(3) Various tobacco control measures
- e.g. Tobacco Control Directive (2014)
2. European Union

2.3 EU programme: illicit drugs


(1) Drug-related burden
• 1.3m opioid users (0.4%)
• 3.1m cocaine users (0.9%)
• 7000 drug-related deaths

(2) Aims
• to reduce supply of drugs
• to reduce demand for drugs
• to encourage MS and international cooperation and coordination
• to improve dissemination of research, monitoring and evaluation results

(3) Principles for actions
• evidence-based, scientifically sound, cost-effective, measurable results
• actions must have time-tables, performance indicators, responsible parties
• EU relevance and added value

(4) 47 priority fields of action

(5) Two EU Action Plans 2013-16 and 2017-20

(6) EU agency: EMCDDA

→ Need for research!
2. European Union

2.4 European Monitoring Centre for Drugs and Drug addiction (EMCDDA) I

(1) Characteristics (2014)
- founded: 1995 in Lisbon, Portugal
- budget: 16.3m Euro
- staff: about 100
- national monitoring centre: ≈30
- publications: 75 in up to 23 languages

(2) Mission
- to provide “factual, objective, reliable and comparable information” on drugs, drug addiction and consequences
2. European Union

2.4 European Monitoring Centre for Drugs and Drug addiction (EMCDDA) II

(3) Activities

- develop EU wide key indicators and standard procedures for collection and analysing relevant data on
  - drug supply
  - drug demand (drug use, problems)
  - treated cases, outcome
  - costs
- collect and analyse
  - drug market structures and trends
  - drug policies
  - best practice: prevention and treatment
  - research activities and outcome
- dissemination of results
  - reports, publications
  - conferences
  - training activities

→ Need for research!
2. European Union

2.5 EU programme: gambling

“Towards a comprehensive European Framework for online gambling” (14 July 2014)

(1) Gambling-related burden

- 0.1-0.8% with gambling disorders (GD; ≈ 1.5m)
- 0.1-2.2% potentially risky gambling

(2) Suggestions for 51 MS standard requirements

- information for gamblers
- protection of minors
- player registration and account
- player activity and support
- time out and self-exclusion
- commercial communication
- sponsorship
- education and awareness
- gambling authorities
- reporting by MS to the Commission and evaluation

→ Need for research!
3. Gambling research and selected results

3.1 EU research project Alice Rap

- **Area 1: Ownership**
  - WP1 Addiction through the ages
  - WP2 Stakeholder analysis
  - WP3 Images

- **Area 2: Counting**
  - WP4 Classifying addiction
  - WP5 Counting addiction
  - WP6 Costing addiction

- **Area 3: Determinants**
  - WP7 Initiation of substance use and gambling
  - WP8 Transitions to problem substance use and gambling
  - WP9 Transition to problem behaviour and cessation

- **Area 4: Business**
  - WP10 Revenues, profits and participants
  - WP11 Impact of suppliers
  - WP12 Addictions web of influence

- **Area 5: Governance**
  - WP13 Governance view
  - WP14 Governance practice
  - WP15 Redesigning governance

- **Area 6: Youth**
  - WP16 Adolescents as customers
  - WP17 When culture and biology meet
  - WP18 Understanding and promoting resilience

- **Programme coordination**
  - WP19 Programme coordination
  - WP20 Integration and communication
  - WP21 Programme evaluation

**ALICE RAP**: Addictions and lifestyle in contemporary Europe – Reframing addictions project

- 31 countries
- 43 institutions & 107 staff members
- Timespan: 5 years (2011-2016)
- Budget: 7,978,226.00 €
### 3. Gambling research and selected results

#### 3.2 Gambling disorder classification I

<table>
<thead>
<tr>
<th>DSM-IV-TR</th>
<th>DSM-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Substance-Related Disorders</td>
<td>(1) Substance-Related and Addictive Disorders</td>
</tr>
<tr>
<td>(1.1) Substance Use Disorders</td>
<td>(1.1) Substance-Related Disorders</td>
</tr>
<tr>
<td>• Abuse</td>
<td>(1.1.1) Substance Use Disorders</td>
</tr>
<tr>
<td>• Dependence</td>
<td></td>
</tr>
<tr>
<td>(1.2) Substance Induced Disorders</td>
<td>(1.1.2) Substance Induced Disorders</td>
</tr>
<tr>
<td>• Intoxication</td>
<td>• Intoxication</td>
</tr>
<tr>
<td>• Withdrawal</td>
<td>• Withdrawal</td>
</tr>
<tr>
<td>• Substance-Induced Mental Disorders</td>
<td>• Other Substance / Medication-Induced Disorders</td>
</tr>
<tr>
<td>- Delirium, Dementia</td>
<td></td>
</tr>
<tr>
<td>- others</td>
<td></td>
</tr>
<tr>
<td>(2) Impulse Control Disorders</td>
<td>(1.2) Non-Substance-related Disorders</td>
</tr>
<tr>
<td>• Pathological Gambling</td>
<td>• Gambling Disorder</td>
</tr>
</tbody>
</table>

- **DSM-IV-TR**: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision
- **DSM-5**: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
3. Gambling research and selected results

3.2 Gambling disorder classification II

Non-substance-related Disorders: Gambling Disorder (312.31)
- Impairment or distress through persistent and recurrent problematic gambling
- 4/9 criteria in a 12 month period:

1. **Increasing amounts of money** to achieve desired excitement
2. **Restless or irritable** when cut down or stop gambling
3. **Unsuccessful efforts** to control, cut back or stop gambling
4. **Preoccupation** with gambling
5. Often gambles when **feeling distressed**
6. **Returns to gambling** to get even („chasing“ one‘s loses)
7. **Lies** to conceal the extent of involvement
8. **Jeopardized or lost significant relationships**, job, etc.
9. Relies on other‘s **financial support**

Mild: 4 - 5 criteria
Moderate: 6 - 7 criteria
Severe: 8 - 9 criteria
3. Gambling research and selected results

3.3 Gambling disorder prevalence I

![Graph showing gambling disorder prevalence in different countries with bars indicating different percentages.]

Cave! Differences partly artefacts

(Sassen et al., 2011)
3. Gambling research and selected results

3.3 Gambling disorder prevalence II: low comparability

(Sassen et al., 2011a)
3. Gambling research and selected results

3.4 Differences and communalities between SUD and GD I: risk differences

*SOGS; based on BZgA, 2014
3. Gambling research and selected results

3.4 Differences and communalities between SUD and GD II

- Risks for developing a disorder
- Characteristics:
  - Genetics
  - Learning
  - Cognition
  - Motivation
- Consequences:
  - Physical
  - Mental
  - Social

(Bühringer et al., 2012)
3. Gambling research and selected results

3.5 Risk factors for GD

(1) Social environment
   - Large GD prevalence differences
     • Social acceptance
     • Gambling policy: e.g., availability, regulations

(2) Gambling characteristics
   - Large GD differences between games
     • Size of gains and losses
     • Speed of games and payout of wins
     • Other characteristics: “near misses”, reinforcement schedule, sounds, light

(3) Gambler’s characteristics (vulnerability)
   - Low risk for GD
     • Personality traits: impulsivity
     • Impaired cognitive control: e.g. risk assessment
     • Impaired reward circuitries: e.g. reduced dopamine, serotonin, endorphin levels
     • Impaired reward/punishment sensitivity
     • Comorbid mental disorders (onset before GD)
3. Gambling research and selected results

3.6 Integration of risk factors into a heuristic model

Determinants of transitions to the three stages of problem development

- **No/recreational gambling** → Risky gambling → Harmful gambling → **No/low risk gambling**

**Disciplines**
- public policy, economics, sociology, youth studies, anthropology, psychology, neurobiology, marketing, genetics, gambling research, European addiction studies, history

**Determinants**
- social, economic and political environment
- individual characteristics
- cellular and molecular factors (including substance/gambling characteristics)

(www.alicerap.eu)
3. Gambling research and selected results

3.6 Integration of risk factors into a heuristic model II

Determinants of transitions to...

- No/recreational gambling
- Risky gambling
- Harmful gambling
- No/Low risk gambling

Risk

Age

Social-environmental characteristics
- Social acceptance
- Models
- Social pressures
- Availability
- Social support

Gambling characteristics
- Attractiveness
- Speed
- Stakes and wins

Individual characteristics

Early life
- Genetics
- Personality
- Impulsivity

Adolescence
- Self-efficacy
- Self-control
- Stress coping
- Psychopathology

(Bühringer et al. 2013)
3. Gambling research and selected results

3.7 Challenges I

(1) Population-based epidemiology
- Gambling types and numbers differ between MS
- Instruments differ which has an impact on prevalence figures (e.g. SOGS based figures are constantly higher than DSM-IV/-5 based figures)
- Inclusion and exclusion criteria differ
- No guidelines for „problem gambling“
  → Need for guidelines and standards

(2) Clinical epidemiology
- Mostly very brief contacts (lack of data)
- Probably many contacts outside addiction care system
- Evidence that many subjects change their problem behaviour without formal intervention
  → Need for guidelines and standards
  → Need for broad monitoring
3. Gambling research and selected results

3.7 Challenges II

(3) Measurement of supply
- Gambling types and names differ between MS
- Online gambling difficult to monitor
→ Need for guidelines and standards

(4) Supply reduction
- Need for public discussion on the availability of gambling
- (illegal) online gambling hard to restrict
- Large differences between MS
→ No agreement between MS
→ Difficult to develop supply reduction measures
3. Gambling research and selected results

3.7 Challenges III

(5) Demand reduction: treatment
- Brief treatment contacts
- Services outside addiction system
→ Difficult to collect treatment concepts and outcome data

(6) Demand reduction: prevention
- Universal prevention:
  information on stakes, wins, losses, behavioural risks; further interventions unclear
- Selective prevention:
  Some target groups (adolescents, young male adults, migrants), but lack of concepts
- Indicative prevention:
  First concepts for online and land-based prevention
→ Need for concept development
3. Gambling research and selected results

3.7 Challenges IV

(7) Gambling policy

- Lack of agreement between State and private providers, scientists and help system
- Lack of society involvement on the size/ type of gambling opportunities, regulations and control

→ Walk through a shark tank
4. Conclusions

(1) **High burden by problem substance use and gambling**
   - high need for effective policy and treatment interventions
   - need for staff training
   - need for research

(2) **Research capacity must be and can be systematically developed and strengthened**
   - long-term funding of larger groups/ topics
   - university structures
   - academic training
   - international coordination and cooperation (ICARA)