Prevention of brain disorders

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Terms: Brain disorder

Brain disorders are disorders of behaviour and of performance in personal and social roles related to disruption of brain functioning. These disorders are listed in Chapters F, G and V of the International Classification of Disease

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Terms: types of prevention

- Risks of illness
  - Brain illness
    - Impairment
      - Disability
        - Handicap

Primary prevention
Secondary prevention
Tertiary prevention
Quaternary prevention

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Cumulative power of prevention

• Primary prevention of brain disorders could reduce the total number of the disorders by 40%
• Secondary prevention could further reduce the impairments in 60% (of the 60%) i.e. 36%
• Tertiary prevention could reduce disability in those impaired by 50% i.e 12%
• Quartenary prevention could help the remaining 12% of the affected

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Examples of situations of high risk for childhood brain disorder

• Hikikomori and related states
• Orphans of victims of AIDS
• In developing countries those exposed to mental health consequences of the
  – high prevalence of physical illness,
  – exhausting parasitosis,
  – malnutrition and
  – sensory deficits

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Examples of situations of high risk for childhood brain disorder

• School drop-outs
• Victims of gender (and other) discrimination in schools
• Children in hopeless urban slums
• Victims of child abuse of different types
• Children of disrupted or dysfunctional families
• Chronically physically ill or disabled children
• Children born to adolescent parents
Examples of primary prevention of brain disorder in children

• Correction of sensory deficits
• Education of parents of children with disorders of intellectual development
• Iodine supplementation for women of child-bearing age
• Education of teachers and development of simple guidelines for action at school.
• Other action to reduce high risk for mental illness in children

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Examples of primary prevention of childhood brain disorders

- Improvement of prenatal and perinatal care
- Breaking the «high risk trio» (malnutrition-infection-intellectual understimulation) for very young children
- Introduction of simple instruments to identify children at high risk for mental illness in primary health care services
Primary prevention of brain disorders in the adult population: examples

- Prevention of alcohol and drug abuse through education, legal measures, health care interventions (e.g. the «single advice» strategy)

- Physical exercise and life style interventions targeting CVD and other chronic diseases (e.g. diabetes) and comorbid depression

- Suicide prevention programmes e.g. Germany, China, India,
Primary prevention of brain disorders in the adult: examples

• Optimization of the working environment
• Prevention of traffic accidents and other situations relevant to brain injury
• Prevention of relapses of mental disorders by appropriate treatment and socio-environmental engineering
• Health service interventions reducing the incidence of infections of the brain
Primary prevention of brain disorders in the elderly: examples

• Correction of impairments (physical, mental or social), e.g. of sensory deficit, mobility restriction or untoward housing leading to reduced social interaction

• Treatment of physical diseases often comorbid with brain disorders

• Several of the measures useful in the prevention of brain disorders in the adults
Secondary prevention (prevention of impairments due to brain disorders)

• Provision of appropriate treatment early in the course of the disease

• Supportive organization of health and social services

• Action against self-stigmatization

• Education of carers (e.g. families)

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Tertiary prevention

• Rehabilitational services including pre-qualification
• Supportive social environment
• Legislative action
• Easy access to health services to deal with comorbid physical illnesses and relapses
Quaternary prevention

- Resolute action against stigma and consequent discrimination in various walks of life – housing, employment, social interaction
- Legislative action
- Development of alternative career paths
- Interruption of the vicious circles of stigma
Summary and conclusions

• Although the pathogenesis of brain disorders is known only partially there are vast possibilities for primary, secondary, tertiary and quartenary prevention of brain disorders and their consequences

• Many of the preventive interventions depend on the action of services other than those called health services and when action is taken in the health system it is usually taken outside the mental health service system
Summary and conclusions (2)

- High priority should be given to action against stigma and discrimination which is the main obstacle to effective preventive programmes.
- While further research may lead to action targeting specific parts of the pathogenetic process (and should therefore be supported), effective preventive action is possible and necessary immediately. This is the main challenge for the next decade.

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