Update on Child and Adolescent (Public) Health Priorities

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Agenda of today

1. Child and adolescent public health
2. Life course theories
3. Child and adolescent public health priorities
4. .... in light of COVID-19
Child public health

The art and science of promoting and protecting health and wellbeing and preventing disease in infants, children, and young people, through the skills and organized efforts of professionals, practitioners, their teams, wider organizations, and society as a whole.
Not just small adults

Infant 0 – 2
Child 3 - 10

Adolescent 10 -19*

Youth 15 – 24*

developmental processes, transitions, dependencies
age-specific exposures, diseases and health needs

* WHO definition
Vulnerability

- Vulnerability of childhood & adolescence (C&A)
  - Development
  - Lower tolerance/exposures
  - Dependencies

- C&A living in vulnerable conditions
  - Foster care, asylum
  - Poverty
  - Parents with health problems

- C&A with chronic disease
  - Long-term risks
  - Specific health needs
  - Participation/Inclusion issues
Mandala of child health

Adapted from Hancock, T. (1986) in Child public health, Blair et al 2010
Monitoring child health

Child health indicators must
1. be comprehensive
2. and cover all stages of childhood
3. be child-centered
4. reflect the public health priorities
5. be available or accessible
6. Be comparable and in accordance with international goals
Life Course approach I

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.*

Health is modifiable

Health trajectory over the life course

An individual's reachable optimum of health and wellbeing

Growth and development  Equilibrium  Decline

Accumulation of resources, risks and life events

LIFE
Example 1  Percentiles

IUGR

SGA

Geburt

Schwangerschaftswoche

Schwangerschaftswoche
Example 2

Lung function

FEV$_1$

100%

Potential lung function catch-up

Normal lung function growth trajectory

Low lung function growth trajectory due to e.g.

Birth

10

20

Age, years
School readiness

- Birth
- Late infancy
- Late toddler
- Early preschool

Poverty

Family discord

Protective and Risk factors

Emotional literacy
Parental education

Adapted fig. 5.3 in Child Health, Oxford press 2016
Barker Hypothesis
“Early life Programming»

programming of later physiological reactions due to in-utero exposures.
In-utero deprivation and long-term health risk

Figure adapted from Painter et al., Reproductive Toxicology, 2005

= > Evidence for early programming
Developmental Origins of Health and Disease
DOHAD-Theory

Early exposure/Insult *In utero* and childhood

- immediate adaptation response
  - imminent survival
  - developmental disruption
  - Disease/Disability

- predictive adaptation response
  - long term benefit
  - developmental plasticity
  - Organospecific change of sensitivity, physiology, structure and function

Increased vulnerability

RISK of DISEASE
Prevention potential

Pre-natal

child

adult

Life time with disease, invalidity, health risk
Healthy un-exposed life time
Child health priorities in Switzerland

Health in Switzerland – children, adolescents and young people  2020
Main results – Priorities 1

Burden of disease is considerable

- approx. 25% have a chronic disease (estimation)
- 5% of <14-year-olds have a disability (BFS 2019)
- Ca. a third report chronic pain (HBSC 2018)
- 10 - 18% of youth experience parental violence
Main results – priorities 2

Mental health disorders/problems are increasing in Switzerland and globally.

- **Moderate – severe depressive symptoms** reported by 13.5% 15 – 25-year-olds (SGB 2017)
- Increase in multiple *psychoaffektive symptoms* from 27.4% in 2002 to 35.2% 2014 in 11 – 15-year-olds. (HBSC)
- The **suicide** rate has more than halved since 2000.
Main results – priorities 3

Some health behaviors improve, are unchanged or new.

- **obesity** incidence is declining (Stamm et al.)
- **sleep deprivation** is prevalent in adolescents (40% <8-10 hrs.) (HBSC 2018)
- A third of 16-25-year-olds **smoked** regularly (most daily) (SGB 2017)
- **Problematic online use** by 8 – 20% (depending on study and definition)
Main results – priorities 4

Social determinants still play a role for healthy development.

- parental education determines child educational achievements
- 5% of children and adolescents were affected by absolute poverty,
- 3 times as many are at risk of poverty.
Overarching results:

❖ Children, adolescents and young adults are confronted with major changes current and future.

❖ Lack of data on health status and behaviors, and utilization of health /preventive services

Health Priorities
in light of the Corona pandemic?
Obesity – increase expected

Increase in obesity – four scenarios of school closures

- + 2 mo school closure
  - Nov. - Dec. 2020
- + 2 mo school closure
  - Sept – Oct. 2020
- + 10% lower physical activity
  - June - August
- 2 mo school closure
  - April – May 2020

Ruopeng An JSHE 2020
Health behaviours

Pietrobelli et al. 2020 Italy
longitudinal study in 41 obese children

- Gemüse- oder Fruchtkonsum
- Chips, rotes Fleisch, und Zuckerhaltige Getränke
- Sportliche Aktivitäten
- Screen Time

(P Wert range, 0.005 to < 0.001)
(-2.30 (SD 4.60) h/wk; P = 0.003)
(4.85 (SD 2.40) h/d (P < 0.001)
Sleep – children sleep more

Sleeping time increased by 39 min/day (SD 77 Min., P = 0.003, Pietrobelli et al. 2020)

“Also, school closure could have reduced sleep deprivation, a risk factor for seizures.”

(Davico et al. 2020)

Lim et al., 2020
Abuse – “Suffering in Silence”

Baron et al. USA 2020
Garstang et al. UK 2020
Piquero et al. Dallas, USA 2020
Dapiq et al. Kroatien, 2020

Abuse allegations in Florida, Baron et al. 2020
Increase in mental health issues

Generalized anxiety increased in university students during the lock-down (Dratva et al. 2020)

Depressive symptoms in university students were three times as high in April and October 2020 compared to a matched sample in 2017 (31% in women, 27% in men; Volken et al. 2021)
Child and adolescent public health

must monitor health to react to secondary health impact and develop action plans based on national and international data and previous experience.

Example:

Young minds report 2021 UK:

1. Make wellbeing is a priority in school catch-up planning
2. Cautious approach to measures that could introduce additional pressure
3. Address the inconsistent mental health support available
4. Ensure economic survival of locations&programs that provide vital early mental health support.
5. Make sure that all young people know where and how to find support.
Additional literature

Nationaler Gesundheitsbericht 2020, Gesundheit in der Schweiz - Kinder, Jugendliche und junge Erwachsene [https://www.gesundheitsbericht.ch/de](https://www.gesundheitsbericht.ch/de)


