

Summary and conclusions

Conclusions

- ▶ There is a moderate certainty of evidence ⊕⊕⊕○ that structured risk and needs assessment instruments provide guidance in assessing young people's risk of recidivism in violence and other crimes. The most studied instruments are Structured Assessment of Violence Risk in Youth (SAVRY) and Youth Level of service/Case Management Inventory (YLS/CMI).
- ▶ We do not know which guidance clinical assessment without structured assessment instruments, i.e. assessment as usual, provides as there is very low certainty of evidence ⊕○○○. The studies regarding assessment as usual are so different to one another that it is found not appropriate to add them in an analysis.
- ▶ There is a low certainty of evidence ⊕⊕○○ that structured risk and needs assessment instruments can identify those youths who are at low risk of recidivism in violence and other crimes. The certainty of evidence is based on limited number of studies that include low number of individuals.
- ▶ There is a very low certainty of evidence ⊕○○○ that structured risk and needs assessment instruments can identify those youths who are at a medium to high risk of relapse in violence and other crimes. The certainty of evidence is based on limited number of studies that include low number of individuals.
- ▶ There is a low certainty of evidence ⊕⊕○○ that professionals experience that structured risk and needs assessment instruments provide help by giving depth, support and transparency in the assessments, although they are considered as time consuming.



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- ▶ More research is needed on how structured risk and needs assessment instruments affect risk management. Cost effectiveness and possible negative effects also need to be researched and followed up in practice.

Background and aim

Young people who have committed crimes can become relevant for investigations and assessments by the Swedish authorities, such as the social services, child and adolescent psychiatry, as well as by the State Institution Board's special youth homes. Structured risk and needs assessment instruments can be used as support for the investigations to assess adolescents' risk of recidivism in violence and other crimes. Structured risk and needs assessments instruments also include assessing which needs should be cared for and managed with risk management.

In 2018, one fifth (about 19,700) of the prosecution decisions in Sweden were crimes committed by young people between 15 and 20 years old. Young people who have been prosecuted for crime have an increased risk of reoffending. Also, there is an increased risk of physical and mental health issues, falling outside the labor market and an increased risk of pre-

mature death. It is therefore important to provide these young people with an appropriate support to reduce the risk of further relapse.

The aim of this systematic review is to evaluate structured risk and needs assessment instruments that are used for young people, 12 to 18 years old, who already have committed a crime. Economic and ethical aspects, as well as a survey concerning practice to the Swedish social services, the child psychiatry services and State Institution Board's special youth homes, are included.

Methods

The systematic review is conducted in accordance with the PRISMA statement and with SBU's methodology (www.sbu.se/en/method). The protocol is registered in Prospero, CRD42018111968. Quantitative and qualitative studies with low or moderate risk of bias published during the period 2000-2019 were included. The Quadas2-instrument was used to assess the risk of bias in the quantitative studies whereas a CASP-version was used for studies with a qualitative design. A mail survey was sent randomly to the Swedish social services, to all child psychiatry services and State Institution Board's special youth homes in order to map the present clinical practice. Three educators representing services using SAVRY or YLS/CMI instruments were interviewed regarding resources and costs linked to material, training and time used for performing a structured risk and needs assessment.

Meta-analysis and narrative analysis were performed. The narrative analyses were based on the predictive validity using Area Under the Curve (AUC) values, whereas the meta-analyses were based on sensitivity and specificity data. ROC curves meeting a critical value of $AUC \geq 0.65$, sensitivity ≥ 0.56 and specificity ≥ 0.71 were assessed as having a clinically important value.

The certainty of evidence was assessed according to GRADE or CERQual.

Inclusion and exclusion criteria

Study design

Longitudinal prospective design or retrospective studies with blinded follow up data (predictive validity), with a minimum of 6 months follow-up. Randomized controlled trials (RCTs) or quasi-experimental designs in order to compare the ability of the risk and needs assessment instruments to support risk management.

Studies were included if they (1) consisted of more than 10 participants; (2) provided data of at least 6 months follow-up; (3) were published from 2000 up to 31

January 2019; (4) were peer-reviewed publications in English, Swedish, Danish or Norwegian; (5) Swedish dissertations; and (6) conducted or reported on original empirical research.

Population

Adolescents aged 12-18 years who had committed any general crime or violence. Studies were excluded if more than 30% of the participants were children younger than 12 years of age or persons older than 18 years.

Index test

Risk- and needs assessment instruments for assessing the risk of reoffending. The instruments should include risk and protection factors in order to address the need of risk management for these young persons. Assessment as usual (i.e. without using structured assessment instruments), also serves as an index test.

Exclusion criteria were:

1. Instruments that are not defined as risk and needs assessment instruments (i.e. scales for measuring aggressive behavior, self-reports of criminal behavior, instruments for assessing psychopathy),
2. Locally developed risk and need assessments instruments or data generated instruments as they can be difficult, or inappropriate, to generalize to other contexts, and
3. Crimes of sexual nature, violence in close relationships, honor-related violence and violence-promoting extremism.

Reference test

Data from national or local registers such as police or court reports, self-reported data or forms for institutional violence registration.

Outcomes

- Recidivism in violence or general crimes (e.g. all crimes). Studies that have investigated all types of recidivism will be presented for general crime. If the study only investigates violent recidivism it will be presented as violent recidivism. The results of the outcome on predictive validity needs to be presented with AUC, values. These data could refer to boys or girls separately or to the whole group of adolescents.
- The instruments ability of matching treatment plans, specific interventions or leaves
- Effects on recidivism in criminality measured as registered criminality

- Experiences of risk and needs assessments among youth, parents and professionals

Language

English, Danish, Norwegian or Swedish.

Search period

From 2000 to 2019. Final search was conducted in January 2019.

Databases searched for literature

Main search: Academic Search Elite via EBSCO

- Medline via OvidSP
- PsycINFO via EBSCO
- Scopus via Elsevier
- SocINDEX via EBSCO

Simultaneous search of free text terms was also conducted in the EBSCO-bases CINAHL, ERIC, Psychology and Behavioral Sciences Collection.

Additional search was conducted in the following databases: Campbell Library, DARE, HTA Database, NHS EED and Prospero from web sites, CRD (Centre for Reviews and Dissemination), FHI Folkhelseinstituttet, NICE (National Institute for Health and Care Excellence), SCIE (Social Care Institute for Excellence). For economic aspects, an additional literature search was undertaken in January 2019 in Academic Search Elite through (EBSCO) and PsycINFO via (EBSCO) and Medline through OvidSP.

In April 2019, complementary searches were conducted regarding clinical assessment without structured assessment instruments, i.e. assessment as usual, through a contemporary search in the EBSCO databases and in Medline through OvidSP. Four citation searches of four selected studies were conducted in Scopus Elsevier, and reference lists were checked.

Client/patient involvement

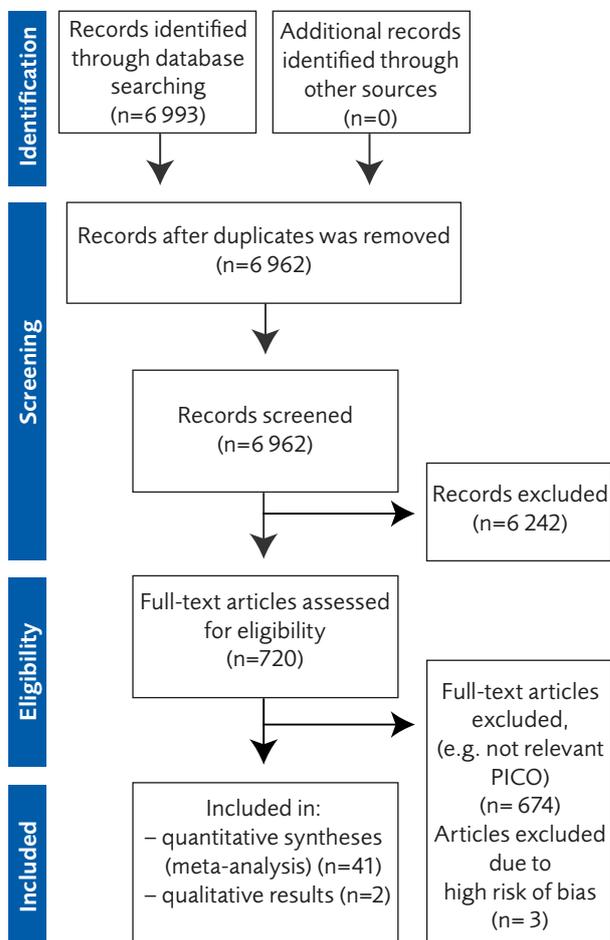
No.

Results

A total of 43 scientific articles were included, out of which 41 used AUC as statistical method (see flow chart link). The studies originated from 11 countries within Europe, North America, Asia and Australia. The number of young people per study varied from just over 50 to about 4,400 per study. A total of 21,698 young people was included in this report, out of which 82 percent were boys. Two articles were based on qualitative data reporting experiences among professionals.

The State Institution Board's special youth homes uses structured risk and needs assessment instruments, while its use is not as prominent in areas of child and adolescent psychiatry or in the social services.

Figure 1 Literature review flowchart.



Health Economic Assessment

The systematic literature search did not identify any studies regarding economic aspects of the use of structured risk and needs assessment instruments.

Ethics

Assessing young people incorrectly can lead to an ethical dilemma. Many adolescents who are assessed to have an increased risk of relapse have a difficult life situation and may thus still need a support from the social services. However, while necessary it is important that this support does not become too interfering. The ethical tensions are similar regardless if the assessment is carried out with or without a structured risk and needs assessment instrument.

Table 1 Certainty of evidence (GRADE¹) regarding structured risk and needs assessment instruments and assessment as usual.

Recidivism in violence and other crime	GRADE AUC ≥0,65	GRADE Sensitivity ≥0,56	GRADE Specificity ≥0,71
All structured risk and need assessment instruments			
Recidivism in violence	Moderate ²	Very low ²	Low ²
Recidivism in other crime	Moderate	Very low	Low
YLS/CMI (Youth Level of Service/Case Management Inventory)			
Recidivism in violence	Moderate	Very low	Low
Recidivism in other crime	Moderate	Very low	Low
SAVRY (Structured Assessment of Violence Risk in Youth)			
Recidivism in violence	Moderate	Very low	Low
Recidivism in other crime	Low	Very low	Very low
Assessment as usual (i.e. without using structured assessment instrument)			
Recidivism in violence	Very low	Very low	Very low
Recidivism in other crime	Very low	Very low	Very low

¹ Grade of evidence, GRADE, is assessed in a four-level scale; very low, low, moderate, and high certainty.

² The level of evidence differs between the measures (AUC, sensitivity and specificity) due to varying lengths of the confidence intervals, and thereby the down rating for precision are different. For AUC-values, no downrating has been made regarding precision due to significantly more studies and larger populations.

Appendices (www.sbu.se/303e)

- References
- Characteristics of included studies
- Search strategies
- Excluded articles
- Studies with high risk of bias

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