Methods: We included data about 90 JIA (26 M and 64 F) aged from 2 to 17 years, who received scheduled vaccination before the age of 2 years and before JIA onset. In all patients the Ig G anti-measles (AM), anti-parotitis (AP), anti-hepatitis B (AHB), anti-diphtheria (AD) and anti-rubella (AR) AVA levels were detected with ELISA. In each patient we evaluate the type of the JIA (oligoarthritis – OA (n=38), polyarthritis – PA (n=36), systemic-SA (n=7) and enthesitis-related arthritis – ERA (n=10), routine disease activity and treatment. In healthy controls were measured anti-measles (n=40) and anti-parotitis (n=30) antibodies (AB) for comparison with JIA.

Results: The main demographic characteristics: age of inclusion in the study 11 (8-15) years, disease onset–6 (4-8) years, JIA duration–4 (2-7) years. The AM AB in JIA patients were 0.2 (0.0-0.5) IU/ml and in HC 0.3 (0.2-1.1) IU/ml ($p=0.00002$), despite the higher age of JIA patients than HC ($p=0.0000001$); AP AB were 2.6 (1.0-5.1) IU/ml vs 1.1 (0.0-4.9) IU/ml in JIA and HC, respectively ($p=0.08$). Protective levels of AM AB was detected in 50% of all JIA population, vs. HC – 87.5% ($p=0.00005$), AP–67.7% vs. 60% in HC ($p=0.076$), AHB – 54.4%, AD–50%, AR–97.8%. The main data related to vaccination status in the table. We have found correlation between JIA duration and levels AM AB ($r=0.27$, $p=0.015$), AP AB ($r=0.22$, $p=0.039$), AD AB ($r=0.27$, $p=0.015$); MTX treatment with AM AB ($r=0.37$, $p=0.001$), and AD AB ($r=0.29$, $p=0.007$); treatment with biologics and AM AB ($r=0.25$, $p=0.018$), and using more than one biologics with AR AB ($r=0.27$, $p=0.047$). In the regression model only MTX had a negative impact on AM ($r=-0.001$) and AD AB level ($p=0.01$).

Parameter	OA	PA	SA	ERA	P
Onset age, y	5 (4-7)	6 (4-8)	8 (4-11)	9 (7-12)	0.01
JIA duration, y	3 (2-5)	5.4 (2-9)	4 (1-6)	6 (5-10)	0.006
# AM vaccinations	2 (1-2)	2 (1-2)	1 (1-2)	2 (2-2)	0.005
# of patients with AM revaccination, %	51	60	43	100	0.06
AM IgG, IU/ml	0.2 (0.0-0.6)	0 (0-0.4)	0.2 (0; 1.6)	0.2 (0.1-0.3)	0.2
Protective AM IgG level, %	58	39	57	50	0.42
# of patients with AP revaccination, %	50	61	43	100	0.05
# AP vaccinations	1.5 (1-2)	2 (1-2)	1 (1-2)	2 (2-2)	0.004
AP IgG, IU/ml	3 (1.5-5)	2.3 (0-5)	1.3 (0; 5)	2.6 (1.1-3.3)	0.67
Protective AP IgG level, %	82	72	71	75	0.8
# AD vaccinations	4 (4-5)	5 (4-5)	4 (4-5)	5 (4-6)	0.09
AD IgG, IU/ml	0.1 (0.03-0.3)	0.1 (0.03-0.2)	0.04 (0.0; 0.2)	0.16 (0.05-0.4)	0.64
Protective AD IgG level, %	53	50	29	50	0.71
# AHB vaccinations	3 (3-3)	3 (3-3)	3 (3-3)	3 (3-3)	0.87
AHB IgG, IU/ml	5 (0-20)	17 (2-45)	1 (0; 10)	19 (4-228)	0.09
Protective AHB IgG level, %	45	67	29	63	0.13
# AR vaccinations	1 (1-2)	1 (1-2)	1 (1-1)	2 (2-2)	0.57
AR IgG, IU/ml	72 (35-145)	54 (27-96)	200 (18; 200)	67 (42-2000)	0.52
Protective AR IgG level, %	100	97	100	100	0.69

Conclusion: Children with JIA are in the risk of decreased level of AVA, especially in measles, diphtheria and parotitis. The measurements of AVA in the individual JIA vaccination schedule required.

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THU0542

THE PSYCHIATRIC DISORDERS IN CHILDHOOD, ADOLESCENCE AND YOUNG ADULTS WITH JUVENILE IDIOPATHIC ARTHRITIS PATIENTS IN FINLAND

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Background: Reported psychiatric morbidity among juvenile idiopathic arthritis (JIA) patients has varied between 9.3-51% (1-3). The variation between studies can be explained by differences in the study populations (age, disease duration and disease state) and differences in the study

methods (1-3). Depression and anxiety are the most common disorders, but most studies were based on questionnaires to investigate incidence of only these two diseases (1,3).

Objectives: To explore mental and behavioral disorders in JIA patients compared to the control population.

Methods: All incidents patients with JIA during 2000-2014 were collected from the nationwide register, maintained by the Social Insurance Institution of Finland (4). The National Population Registry identified three controls (similar regarding age, sex and residence) for each case. They were followed up together until 31st Dec 2015. ICD-10 codes of psychiatric diagnosis (F10-F99) were picked up from the Care Register for Health Care of the National Institute for Health and Welfare.

Results: During 28,941 follow-up years, 974 (23%) JIA patients were diagnosed with mental or behavioral disorders, whereas the number in the control group was 1,807 (15%), ($p<0.001$). Neurotic, stress-related and somatoform disorders (F40-48) and mood (affective) disorders (F30-39) were the most common psychiatric diagnoses in the JIA (10.41% and 8.18%) and in the control group (5.44% and 5.13%). The odds ratio for neurotic disorders (F40-48) was 2.02 (95% CI 1.78-2.29) and for mood disorders (F30-39) 1.65 (95% CI 1.44-1.89). Additionally, JIA was statistically significantly associated with behavioral and emotional disorders and disorders of psychological development (Table). Female patients with JIA had higher odds ratios than males for all mental and behavioral disorders except behavioral syndromes (F50-59), for which males with JIA had higher odds ratio.

Conclusion: The risk of psychiatric disorders in JIA patients is increased.

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Abstract THU0542 –Table 1. Percentages and odds ratios (OR) for psychiatric disorders in JIA compared to controls

Psychiatric disorders (ICD-10)	JIA n/ %	Controls n/ %	OR (95% CI)
Mental and behavioral disorders due to psychoactive substance use (F10-19)	70/ 1.67	212/1.69	0.99 (95% CI 0.75-1.30)
Schizophrenia, schizotypal and delusional disorders (F20-29)	31/ 0.74	68/0.54	1.37 (95% CI 0.89-2.09)
Mood (affective) disorders (F30-39)	342/ 8.18	642/5.13	1.65 (95% CI 1.44-1.89)
Neurotic, stress-related and somatoform disorders (F40-49)	435/ 10.41	681/5.44	2.02 (95% CI 1.78-2.29)
Behavioral syndromes (F50-59)	134/ 3.21	204/1.63	2.00 (95% CI 1.60-2.49)
Disorders of adult personality and behavior (F60-69)	34/ 0.81	80/0.64	1.27 (95% CI 0.85-1.91)
Disorders of psychological development (F80-89)	192/ 4.59	414/3.31	1.41 (95% CI 1.18-1.68)
Behavioral and emotional disorders and unspecified mental disorder (F90-99)	192/ 4.59	414/3.31	1.41 (95% CI 1.18-1.68)

Disclosure of Interests: None declared

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THU0543

LATENT TUBERCULOSIS INFECTION IN CHILDREN WITH PEDIATRIC RHEUMATOLOGIC DISEASES TREATED WITH CANAKINUMAB

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Background: Little is known about the long-term safety of canakinumab about tuberculosis (TB) risk in paediatric rheumatologic diseases.