Anxiety in children with syncope

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Background:

Syncope is defined as a sudden temporary loss of consciousness and postural tone followed by spontaneous recovery within few seconds to minutes (Ozme et al., 1993; Blount et al., 2004). Between 15% and 50% of adolescents have at least one episode of syncope (Prodinger & Reisdorff, 1998).There are multiple potential etiologies including metabolic or endocrine diseases, neurological and lung disorders, adverse drug effects, various structural or functional cardiovascular problems and psychological problems. Syncope, also may be caused by pooling of blood in the legs due to sudden changes in body position, overheating, dehydration, missed meals, during violent coughing spells, heavy sweating or exhaustion (Prodinger & Reisdorf, 1998). Psychogenic syncope can be caused by anxiety, pain, overwhelming fear, emotional stress in different situations e.g. in school or during medical procedures.

One fourth of adults with psychogenic syncope have psychological problems ranging from panic disorder to major depression. The prevalence of psychiatric morbidity (especially anxiety and depression) in patinets with unexplained syncope ranges from 1% to 81% (D'Antonio et al., 2009). Children who had fainting for unexplained reasons were found to have higher rates of internalizing problems and their frequency of syncope symptoms and emergency room visits are positively associated with their own psychological symptoms (overall anxiety, worry-oversensitivity, depressive symptoms). Also fathers psychological symptoms were highly associated with childrens frequency syncope episodes. (Blount et al., 2004).
Due to its very heterogenic etiology and very often wide range of diagnostic procedures, children with syncope could experience different fears and anxieties.

The aim of this study was to examine the different aspects of anxiety symptoms in children with syncope and healthy children.

Method

Participants: The sample consisted of 75 schoolchildren: 33 patients with syncope (19 girls and 14 boys) and 42 healthy children (22 girls and 20 boys) in control group. Participants ranged in age from 9 to 14 years ($M_{syncope}$=12.2, $SD_{syncope}$ =1.9; $M_{healthy}$= 13.1, $SD_{healthy}$ =1.2).
Measures and Procedures: One questionnaire was used: The Fear and Anxiety Scale for Chidren and Adolescents (Vulić Prtorić A, 2004) containing 61 items, categorized in 7 subscales which included separation anxiety, social anxiety, test anxiety, obsessive-compulsive symptoms, worry, anxiety sensitivity/panic attacks/agoraphobia and somatic symptoms. Items are indorsed on a 1 to 5 point scale of symptom severity. Subscale internal consistency is ranged from 0.67 to 0.87.
The children with syncope completed questionaire as a part of psychological evaluation during the hospitalization in Department of Pediatrics at Zadar General Hospital.

Results

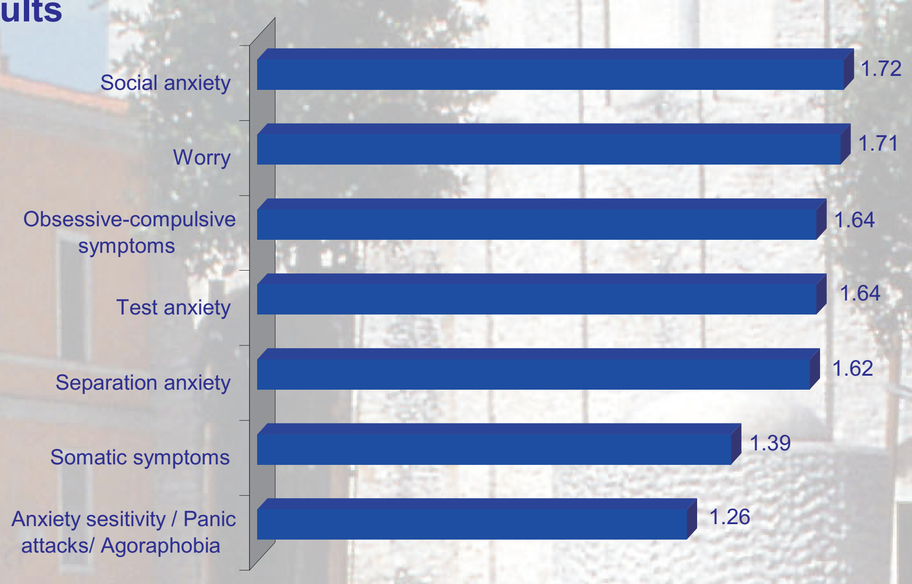

Figure 1. Anxiety symptoms in healthy children

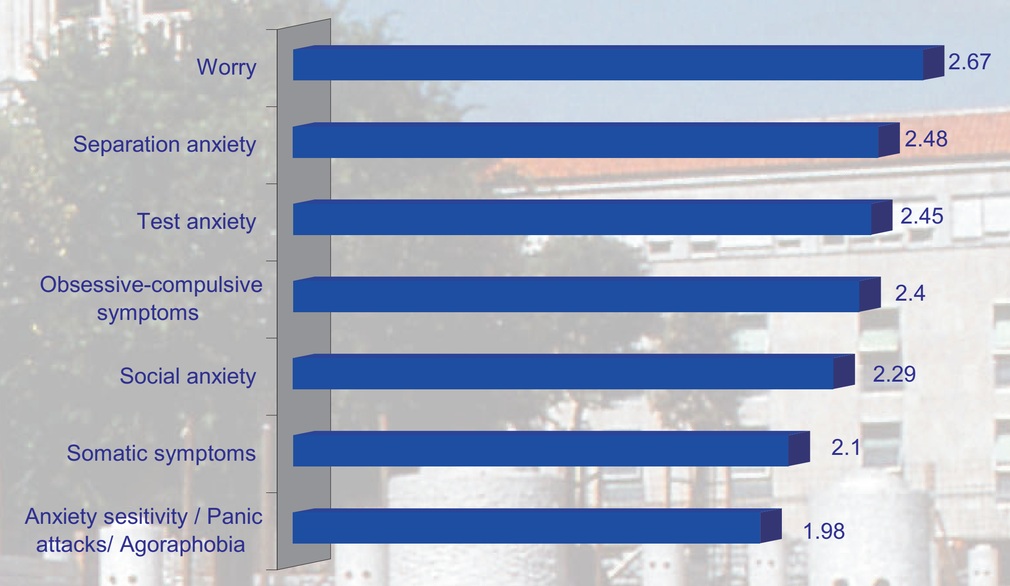

Figure 2. Anxiety symptoms in children with syncope

Table 1. Descriptive statistics and t-test for dependent samples of anxiety symptoms in healthy children

	M	SD	SOC	W	TA	OBC	SEP	SOM	APA
1. Social anxiety (SOC)	1.72	0.61		0.01	-0.95	0.08	0.1	0.34	0.46
2. Worry (W)	1.71	0.74	0.18		-0.63	-1.0	-0.99	0.32	-4.1
3. Test anxiety (TA)	1.64	0.61	-0.08	-0.07		0.00	0.02	0.26	0.38
4. Obsessive-compulsive symptoms (OBC)	1.64	0.68	1.21	-0.07	0.04		-0.24	0.25	0.37
5. Separation anxiety (SEP)	1.62	0.64	1.34	-0.09	0.26	-0.02		0.23	0.35
6. Somatic symptoms (SOM)	1.39	0.48	4.88	3.16	4.19	3.1	3.24		-3.4
7. Anxiety sesitivity / Panic attacks/ Agoraphobia (APA)	1.26	0.52	5.62	-0.44	4.73	4.6	4.91	-0.12	

Table 2. Descriptive statistics and t-test for dependent samples of anxiety symptoms in children with syncope

	M	SD	W	SEP	TA	OBC	SOC	SOM	APA
1. Worry (W)	2.67	0.88		-1.30	-2.40	-1.50	-2.70	0.56	-5.60
2. Separation anxiety (SEP)	2.48	0.97	-0.18		-0.30	0.08	-1.40	0.38	0.50
3. Test anxiety (TA)	2.45	0.88	-0.22	-0.04		0.04	0.16	0.34	0.46
4. Obsessive-compulsive symptoms (OBC)	2.40	0.79	-0.26	0.60	0.30		-0.90	0.30	0.42
6. Social anxiety (SOC)	2.29	0.76	-0.38	-0.19	1.30	-0.11		0.19	0.31
7. Somatic symptoms (SOM)	2.10	0.71	5.06	4.10	4.00	2.40	1.90		-2.50
8. Anxiety sensitivity /Panic attacks/ Agoraphobia (APA)	1.98	0.76	-0.68	5.30	4.20	3.30	2.80	-0.12	

In table 1 and 2 above the diagonal are absolute differences between pairs of variables, and below the diagonal are t-values.
Bolded differences are statistically significant ($p<0.05$). Subscales are ranged from highest to lowest score for sample of healthy controls and children with syncope.

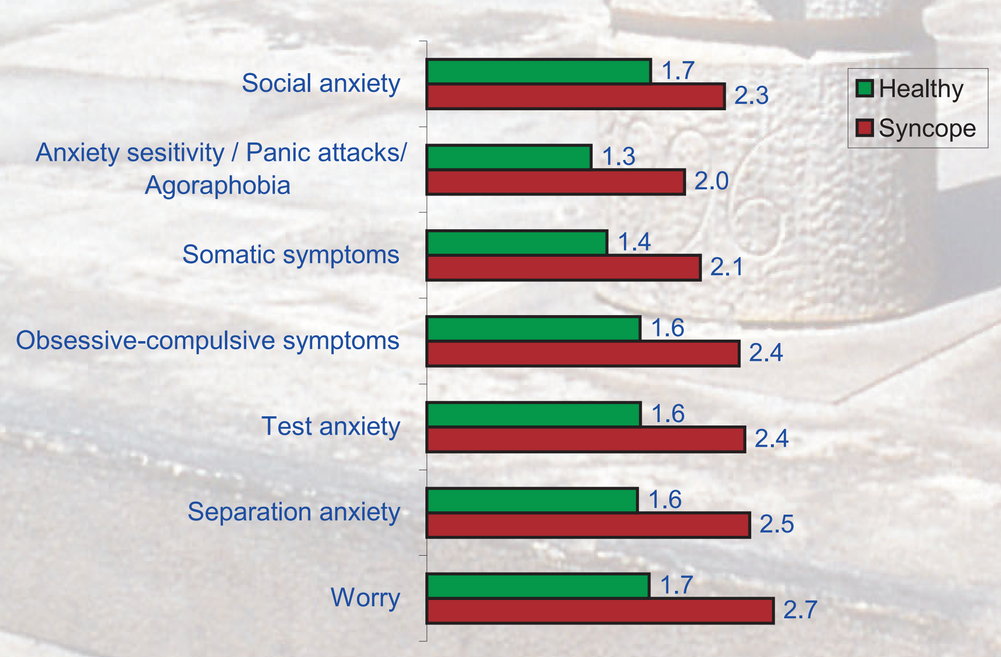

Figure 3. Differences between children with syncope and control sample.
Differences between healthy children and children with syncope are statistically significant on all 7 scales of anxiety ($p<0.01$).

Conclusion

Results show that children with syncope suffer from more anxiety problems than healthy controls.
Children with syncope differed the most from healthy controls on Worry scale where they reported more problems than healthy children ($M_{worry\ scale\text{-}syncope}$= 2.67; SD=0.88), and the lowest differences between healthy children and children with syncope is on social anxiety scale and on scale of anxiety sesitivity/panic attacks/agoraphobia.
Highest score for healthy subjects is on Social Anxiety Scale (M=1.72; SD=0.61). Lowest scores on both samples are on Anxiety sensitivity \ Panic attacks\ Agoraphobia scale and on Somatization scale.
There were no significant age and gender differences in anxiety symptoms in syncope group and control group.
These finding suggest that psychological factors play a role in syncope symptoms but further research efforts should consider a wide range of variables as a potential mediators of a relationship between anxiety and syncope symptoms. Also the children with syncope in this research were hospitalized which could have effect on higher anxiety symptoms.
Helping children with syncope to control anxiety feelings could have a great significance for psychological therapy and prevention in pediatric care.

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