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CHILD SUICIDE IN THE CZECH REPUBLIC FROM 2002–2009

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Abstract

In recent years, the suicide rate among children and adolescents has been increasing. Seen over the long term, the overall suicide rate in the Czech Republic has been decreasing since the 1970s, while during the last ten years we can see that the number of suicide cases among juveniles has been increasing. The epidemiology of suicidal behaviour is a significant indicator of the health condition of the population. There are numerous risk factors in terms of child suicide: demographic, family-related, cognitive, emotional, behavioural, and neurobiological, along with other factors such as the environment, psychiatric disease, aggression, impulsiveness or frustration.

The aim of the research was to analyse the data related to child suicide in the age group from 0 to 18 years of age (according to the Convention on the Rights of the Child), to sort out the collected data by specific criteria, and statistically evaluate the relationships between the variables.

The research method was secondary analysis of data obtained from the database of child suicide maintained by the Police of the Czech Republic, data available without informed consent. The subjects of the research were children aged 0 to 18 years. The research set comprised a total of 318 children from the Czech Republic, who committed suicide during the period 2002–2009. The data was statistically processed using the SPSS program, evaluated by means of the chi-quadrate test and Fisher's exact test at the level $p<0.05$.

In total, 237 boys (74.5%) and 81 girls (25.5%) committed suicide. The youngest child who committed suicide during the examined period was an eight-year-old boy. The number of suicide cases increases at the age of 13. Most children commit suicide at the age of 18, which is applicable for both genders. The research shows statistically significant dependence between certain variables.

Key words: *child suicide; risk factors; the motive for suicide; the method of suicide*

ORIGINAL ARTICLE

INTRODUCTION

In 2008, the Czech government adopted the "National Strategy for Preventing Violence against Children in the Czech Republic 2008–2018", which includes the "National Action Plan for Implementation of the Strategy for the period 2009–2010" (the "NAP"), in order to fulfil the recommendations of the WHO, UNO and the Council of Europe to develop a unified and complex strategy in this area of prevention. One of the aims of the NAP is to analyse the preparation of the data collection/monitoring, the implementation of the data collection and monitoring, and research related to specific forms of violence. The first World

Report on Violence against Children works with a definition of three forms of violence against children, one of which is violence against the self (suicidal behaviour and intentional self-destructive behaviour) (WHO 2006, NAP 2008).

In recent years there have been ever larger numbers of children and teenagers who try to resolve their problems through self harm (self-destructiveness and suicide). According to experts, the most frequent reasons are dismal family relationships, divorce and parent quarrels. The Safety Line has published a report on the type of problems that children had to face when they decided to call for help. Self harm is one of the topics which have appeared in the conversation much more often. Over the last two years, the total number of calls to the Safety Line increased by 350% (Vodáčková et al. 2002, Safety Line Association 2010).

There is a basic difference between intentional self-harm and suicide. The child who tries to commit suicide wants to end his or her life, while the child who inflicts self harm wants to feel better (Kriegelová 2008).

Suicide is defined as: "Knowing and intentional termination of one's own life, when the person wishes to die and acts in order to induce his or her death. If the person survives, the activity is qualified as an unsuccessful suicidal attempt. The main goal of this activity is to die" (Veselý 2011).

From the psychological point of view, suicidal activities are ranked among disorders of self-preservation. It is a specific form of aggression which is targeted against the self. The risk of suicide can be increased by various biological, psychological, health and social factors. There are four forms of suicidal behaviour and suicidal activities: suicidal thoughts, suicidal tendencies, suicidal attempts, suicide (Koutek and Kocourková 2003, Machová et al. 2011, Veselý 2011).

Prevalence – trend – shows that the occurrence of suicidal attempts grows exponentially, depending on the age of the child (Greening et al. 2010).

The aim of the research was to analyse the data related to child suicide within the age group 0–18 years (according to the Convention on the Rights of the Child), to sort out the collected data by specific criteria, and statistically evaluate the relationships between the variables.

MATERIAL AND METHODS

In terms of the research of violence against children, we mostly paid attention to child suicide. We cooperated with the Police of the Czech Republic, who provided us with the data necessary for our secondary data analysis – data available without otherwise necessary informed consent.

As regards the area of child suicide, we obtained data from the Police of the Czech Republic (from the Regional Directorate) for the period between 2002 and 2009 from the whole Czech Republic (N=318). Data categories: gender, age, motive for suicide, method of suicide, place of suicide (i.e., region), ingestion of alcohol, drugs or medicaments before the suicide.

The data was saved in a special research database, statistically evaluated, and subsequently consulted with the participating parties (Police of the Czech Republic) and with a statistics expert. The data was statistically processed using the SPSS program, evaluated by means of the chi-quadrate test and Fisher's exact test at the level $p<0.05$.

Research method

- Quantitative research – secondary data analysis

Subject -matter of the research

- Child suicide (completed self-destruction)

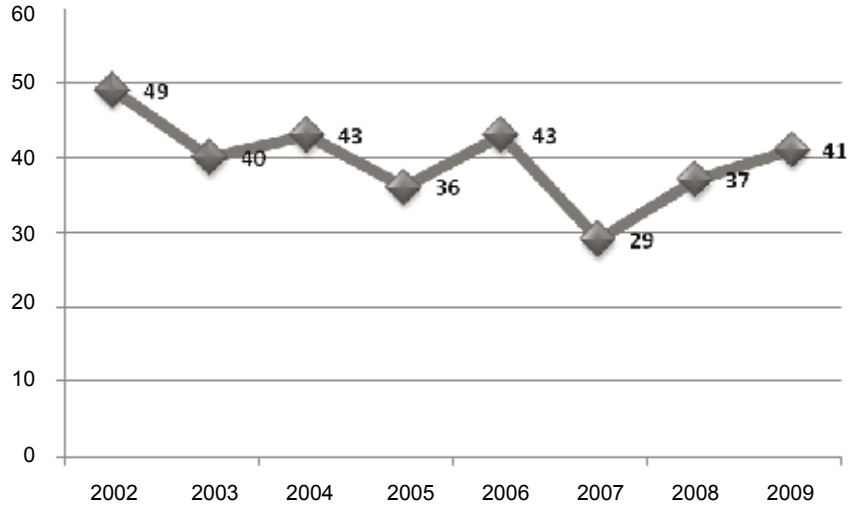
Object of the research

- Children aged 0–18 years (according to the Convention on the Rights of the Child)

Data source: Police of the Czech Republic database

RESULTS

The research set comprised 318 children, who committed suicide during the period 2002–2009. In total, there were 237 (74.5%) boys and 81 (25.5%) girls (Table 1).



Source: Police of the Czech Republic

Graph 1. Prevalence of suicide cases in the period between 2002 and 2009 (N=318)
(in absolute numbers)

Graph 1 shows the prevalence of child suicide cases within the analysed period. Beginning in 2002, the annual number of cases slightly decreased.

Table 1. Number of child suicide cases by gender

Gender	N	%
Boys	237	74.5
Girls	81	25.5
Total	**318**	**100.0**

Source: Police of the Czech Republic

Table 1 shows that suicide is more prevalent among boys. Three quarters of child suicide cases (74.5%) are by boys.

Table 2. Age of children at the time of suicide by gender (in absolute numbers)

Age	Gender		Total
	Boys	Girls	
8	1	0	1
9	1	0	1
11	2	0	2
12	4	0	4
13	10	1	11
14	12	7	19
15	22	14	36
16	38	16	54
17	55	17	72
18	92	26	118
Total	**237**	**81**	**318**
%	74.5	25.5	100

Source: Police of the Czech Republic

The number of suicides increases with the age of the children (Table 2). The increase is obvious from the age of 13. Most children commit suicide at the age of 18 among both boys and girls – 118 total suicide cases.

Table 3. Motives for suicide (N=318)

MOTIVE for suicide	N	%
conflicts and issues in the family	34	10.7
sex or relationship-related conflicts and issues	32	10.0
school-related conflicts and issues	20	6.3
sudden depression and psychological problems	62	19.4
mental disorder	13	4.1
existential conflicts and issues	8	2.5
physical disease	4	1.3
religious	2	0.6
fear of criminal prosecution	2	0.6
conflicts and issues related to work	1	0.3
other motive	17	5.3
motive not identified	124	3.9

Source: Police of the Czech Republic

The motive was identified in 194 (61%) cases of child suicide. The most frequent motives were conflicts and issues in the family, relationship and school problems – in total 86 cases (27%), see Table 3.

Table 4. Method of suicide by gender

METHODS OF CHILD SUICIDE	Gender N=318			
	Boys		Girls	
hanging, suffocation, strangulation	116	48.1%	19	23.8%
jump from a height	27	11.8%	26	32.5%
jump (lying) under a moving object	19	8.0%	10	12.5%
jump out of a window	13	5.5%	7	8.8%
drugs or medicaments	5	2.1%	11	13.8%
shot from illegally held gun	14	5.9%	1	1.3%
shot from legally held gun	14	5.9%	0	0
jump off a bridge	5	2.1%	4	5.0%
gas poisoning	8	3.4%	0	0
other method	7	3.0%	0	0
burning	4	1.7%	0	0
deliberate crash	2	0.8%	0	0
poisoning toxins	1	0.4%	1	1.3%
jump off a natural formation	1	0.4%	0	0
undercut	1	0.4%	0	0
drowning	0	0	1	1.3%
explosive	1	0.4%	0	0
Total	**237**	**100%**	**81**	**100%**

Source: Police of the Czech Republic

The most frequently used methods of suicide were hanging, suffocation, strangulation – 116 boys and 19 girls (43% of the children), followed by jumps from a height, jumps from a window, jumps from a bridge or under a moving object – 65 boys and 47 girls (36% of the children) (Table 4).

Table 5. Methods of suicide by gender – statistical evaluation

Gender	METHODS OF SUICIDE					Total
	drugs or medicaments	other method	hanging, suffocation, strangulation	jump from a height or under a moving object	shot from a gun	
male	14	14	116	65	28	237
female	12	1	19	47	2	81
Total	**26**	**15**	**135**	**112**	**30**	**318**
male	-	o	+++	– – –	+	
female	+	o	– – –	+++	–	

The variables were combined and subsequently processed statistically. It was revealed that there is a highly statistically significant dependence between the gender and the method of suicide. Boys choose hanging, suffocation and strangulation and (less frequently) shooting with a gun (held legally or illegally). Girls commit suicide by jumping from a height or under a moving object, as well as by means of drugs or medicaments (Table 5). As an instrument for the statistical evaluation the Fisher's exact test was applied, $p<0.001$.

Table 6. Method of suicide by region – statistical evaluation

Place of suicide (region)	METHODS OF SUICIDE				
	drugs or medicaments	other method	hanging, suffocation, strangulation	jump from a height or under a moving object	shot from a gun
Prague	o	o	– –	+++	o
South Bohemia	o	o	+	o	o
South Moravia	o	o	o	o	o
North Bohemia	o	o	o	o	o
Moravia-Silesia	o	o	o	o	o
Central Bohemia	o	o	o	o	+
East Bohemia	o	o	o	o	o
West Bohemia	o	o	o	o	o

There is a highly statistically significant dependence between the method of suicide and the place of suicide, i.e., the region in the Czech Republic (Table 6). In Prague, children most frequently commit suicide by jumping from a height or under a moving object – highly statistically significant. In South Bohemia, children commit suicide by hanging, suffocation or strangulation; and in Central Bohemia the most frequently used method of suicide is shooting from a gun (held legally or illegally). At this point, no statistical significance was found among other regions in the Czech Republic. For the purposes of the statistical evaluation the chi-quadrate test was applied, $p=0.045$.

Table 7a. Ingestion of medicaments before suicide by gender – statistical evaluation

Gender	MEDICAMENTS		Total
	yes	no	
male	– – –	+++	
female	+++	– – –	318

The statistical evaluation was applied for other circumstances in connection with the child suicide cases, such as ingestion of medicaments before the action and ingestion of alcohol before the action. There is a highly statistically significant dependence between gender and ingestion of medicaments before suicide. Girls use medicaments before they commit suicide, boys do not. For the purposes of statistical evaluation the chi-quadrate test was applied, $p<0.001$ (Table 7a). Another highly statistically significant dependence was found between age and ingestion of alcohol before suicide. In the age group of 16–18 years it was proven that children use alcohol before suicide. For the purposes of statistical evaluation the chi-quadrate test was applied, $p<0.001$ (Table 7b).

Table 7b. Ingestion of alcohol before suicide, by age groups of children – statistical evaluation

Age	ALCOHOL		Total
	yes	no	
8–15	– – –	+++	
16–18	+++	– – –	318

DISCUSSION

The aim of the research was to analyse the data related to child suicide in the age group of 0–18 years. The data necessary for the secondary analysis was obtained in cooperation with the Police of the Czech Republic, for the period of 2002–2009 from the whole Czech Republic (N=318). The following variables were evaluated: gender, age, motive of suicide, method of suicide, place of suicide – region, ingestion of alcohol, drugs or medicaments before the suicide. The data was saved in a special research database and was statistically evaluated.

The obtained data was processed by means of descriptive statistics and subsequently tested by means of statistical tests, the chi-quadrate test and the Fisher's exact test, and the relationship between the variables was evaluated at the level $p<0.05$.

The research set comprised 318 children, who committed suicide from 2002–2009. In total, there were 237 (74.5%) boys and 81 (25.5%) girls (Table 1). It is clear from Table 1 that in our research set suicide is much more prevalent among boys. Veselý and Vágnerová also emphasise the gender differences in this problem area. The difference is based on the fact that boys are bolder than girls in terms of committing the action. Attempted suicide is more prevalent among girls, while boys more often complete the suicide (Vágnerová 2005, Veselý 2011).

Graph 1 shows the prevalence of child suicide during the examined period. Compared to 2002, the annual number of child suicide cases is decreasing slightly. The number of suicides was lowest in 2007.

Table 2 indicates that most child suicides are committed at the age of 18, which is the same in both genders – in total 118 suicide cases. The number of suicide cases increases as the children get older. There is a significant increase from the age of 13, in total 11 children; then total 19 children at the age of 14, 36 children at the age of 15, 54 children at the age of 16, and 72 children at the age of 17.

The prevalence of suicide attempts increases exponentially with the age of children, which is stated in research papers from the United States and Africa (Greening et al. 2010) and was confirmed by our research as well.

The motive was identified in 194 cases (61%) of child suicide. In 124 cases (39%) the motive was not found. The most frequent motives of child suicide were conflicts and issues in the family, followed by relationship and school issues in 86 cases (27%), see Table 3. The other important motives for child suicide are sudden depression and psychological problems in 62 cases (19.4%) and mental disorder in 13 cases (4.1%), schizophrenia, bipolar disorder (formerly called manic depressive insanity), as well as delusions and other similar disorders, and psychological problems – affective disorders, phobias, anxiety, eating disorders and depression. Children are strongly influenced by social and environmental factors, such as interactions required in daily life with internalized family rules, values and norms, followed by the emotional climate in the family, excessive criticism towards the child, and traumatic events in the life of the child, which develop feelings of fear and hopelessness. Another significant aspect is exposure to deliberate self-destructive behaviour, i.e., association between the origin of deliberate self-destructive behaviour and suicidal behaviour and previous exposure to deliberate self-destruction or suicide in the child's surroundings. This emerges mainly during early adolescence. At present, the most frequent way in which vicarious self-destructive behaviour is introduced is through sharing detailed information and descriptions of self-destructive activities on the internet – the "copy-cat effect" (Benešová 2008, Kriegelová 2008, Svoboda et al. 2009).

Table 4 shows that the most frequent methods of child suicide were hanging, suffocation and strangulation – 116 boys and 19 girls (43% of the children), followed by jumps from a height, a window, a bridge or under a moving object – 65 boys and 47 girls (36% of the children). The variables were combined and statistically tested in the following groups: hanging, suffocation and strangulation (no combination), a jump from a height and under a moving object (jump off a window, jump off a bridge), shooting with a gun (held legally or illegally), drugs or medicaments (gas poisoning and poisoning toxins), other method (burning, crash, drowning, undercut, explosive). A highly statistically significant dependence was found between gender and the method of suicide. Fisher's exact test, $p<0.001$, was applied for the statistical evaluation. Boys commit suicide by hanging, suffocation or strangulation (48.1%) and (less frequently) by shooting with a gun (held legally or illegally) (11.8%). Girls commit suicide by jumping from a height (32.5%) or under a moving object (12.5%), and by means of drugs or medicaments (13.8%) (Table 5). According to Veselý and Vágnerová, boys tend to prefer the "hard way", i.e., hanging, shooting or jumping, while girls opt for a „softer" style, i.e., poisoning. Therefore, the suicide attempt is more often reversible by a rescue action in girls than in boys. Our research confirms these conclusions, but our conclusion is different in the case of jumps from a height or under a moving object. According to our analysis, suicide by jumping is more frequent in girls than in boys (Vágnerová 2005, Veselý 2011).

It is obvious from Table 6 that there is a highly significant dependence between the method of suicide and the place of suicide, i.e., the region in the Czech Republic. In Prague, children most frequently commit suicide by jumping from a height or under a moving object – highly statistically significant. In South Bohemia, children commit suicide by hanging, suffocation or strangulation. In Central Bohemia the most frequently used method of suicide is shooting with a weapon (held legally or illegally). No statistical significance was found among other regions in the Czech Republic. For the purposes of the statistical evaluation, the chi-quadrate test was applied, $p=0.045$. It was not possible to statistically evaluate the numbers of child suicide cases in specific regions of the Czech Republic. Therefore, a more detailed analysis is necessary.

The method of statistical evaluation was applied on other circumstances related to child suicide, such as ingestion of medicaments before the suicide and ingestion of alcohol before the suicide. There is a highly statistically significant dependence between gender and the medicaments ingested before the suicide. Girls use medicaments before they

commit suicide, boys do not. For the purposes of the statistical evaluation, the chi-quadrate test was applied, $p<0.001$ (Table 7a). Another highly statistically significant dependence was found between age and the ingestion of alcohol before suicide. In the age group of 16–18 years it was proven that children use alcohol before suicide. For the purposes of the statistical evaluation, the Fisher's exact test was applied, $p<0.001$ (Table 7b).

Foreign research studies present other conclusions as well. In our follow-up work, we would like to focus on them through child casuistic reasoning and to cooperate with experts in the field of pedopsychiatry. According to the research papers, over 18% of children aged 8 to 18 say that they have suicidal thoughts, and among many adolescents who committed suicide, suicidal behaviour appeared earlier, in the childhood. This study focussed on parenting styles and their influence on suicidal behaviour and conduct among children. It was concluded that a parental (foster) environment that lacks sensitivity and is overly strict and full of animosity is often the cause of suicidal behaviour. The risk factors include depression, aggressiveness, the environment, family – mainly the parenting styles in the family (Greening et al. 2010).

The WHO's study, "Health Behaviour in School-aged Children 2005/2006 (HBSC)" presents some of its outputs in terms of child suicide: girls admitted that they had feelings of depression more often than boys aged 13 to 15, as well as suicidal thoughts before the age of 15. Good communication with parents reduces the probability of suicidal thoughts in all age groups. Adolescents who are happy with their family relationships suffer from depression and suicidal thoughts less than their peers. The best environment for adolescents is a family with their natural parents. According to the WHO's study (Samm et al. 2010), suicidal thoughts were more prevalent among adolescents from incomplete families with a step parent than in families with a single parent.

CONCLUSION

Hopelessness in children appears mainly in connection with family relationships, peer relationships and weak results at school. Children sometimes magnify the potential punishment at home and decide to solve the problem definitively. Among schoolchildren, this kind of hazard is extremely dangerous. At this age, children have not developed the feeling of their own mortality yet. Every mention of potential suicide from any child must be taken seriously, as children underestimate the final effect of suicide. Mainly in children, but in adolescents as well, it is possible to apply various forms of therapy, in particular non-verbal psychotherapeutical approaches, such as therapy through games or art therapy. Drawings may reveal issues which would stay hidden during interviews. In addition, while working with suicidal children and adolescents, music therapy or relaxation techniques can be applied (Svoboda et al. 2009, Veselý 2011).

It follows from our research that there is a statistically significant dependence between gender and the method of suicide, between the method of suicide and the place of suicide (regions in the Czech Republic), between the gender and the ingestion of medicaments before the suicide, as well as between age and the ingestion of alcohol before the suicide. No statistically significant dependence was proven between the other factors. The source of the data was the database obtained from the Police of the Czech Republic in cooperation with the Regional Directorate for the South Bohemian Region.

Prevention is a crucial part of child psychology and psychiatry. The aim of prevention is the effort to reduce the occurrence of suicidal behaviour. Primary prevention is focused on decreasing the occurrence of suicidal behaviour and conduct among children, as well as on identification and elimination of risk factors. Secondary prevention is focused on timely identification and treatment of clinical symptoms, including crisis intervention. Tertiary prevention is then focused on mitigating the consequences of clinical disorders in order to avoid their repeated occurrence. Children are exposed to risk and protective factors. The risk factors increase the child's vulnerability, while the protective factors mean a positive influence on the child. The protective factors include, for example, the child's positive temperament, as well as the intelligence, physical health,

physical fitness, social skills, harmonious family life, proper parenting, support from parents, good emotional climate in the family, quality of social environment (good schools, extracurricular activities, crisis centres). The aim of prevention is to lessen the risk factors, thereby strengthening the protective factors on the side of the child, the family and the environment (Vodáčková et al. 2002, Koutek and Kocourková 2003, Vágnerová 2005).

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REFERENCES

1. Benešová V (2008). Suicidální jednání dětí a mládeže [Suicidal Action in Children and Young People]. Prevence úrazů, otrav a násilí. 4(2): 123–130 (Czech).
2. Greening L, Stoppelbein L, Luebbe A (2010). The Moderating Effects of Parenting Styles on African-American and Casuasian's Suicidal Behaviors. J Youth Adolescence. 39(4): 357–369.
3. Koutek J, Kocourková J (2003). Sebevražedné chování [Suicidal Behaviour]. 1st ed. Praha: Portál. 127 p. (Czech).
4. Kriegelová M (2008). Záměrné sebepoškozování v dětství a adolescenci [Deliberate Self-destruction during Childhood and Adolescence]. 1st ed. Praha: Grada. 174 p. (Czech).
5. Máchová V, Průchová D, Velemínský M (2011). Sebevraždy seniorů. (Některé vnější vlivy a způsoby provedení sebevražd u seniorů) [Suicide in Senior Citizens. (Some external influences and the methods of suicide in senior citizens]. Prevence úrazů, otrav a násilí. 6(2): 154–161 (Czech).
6. Národní strategie prevence násilí na dětech v České republice 2008–2018 (NAP), Usnesení vlády ze dne 3. září 2008, č. 1139 [National Strategy to Prevent Violence against Children in the Czech Republic 2008–2018 (NAP), Government Resolution No. 1139 of 3 September 2008]. [online] 2008 [cit. 2011-5-3]. Available at: http://racek.vlada.cz/usneseni/usnweb.nsf/15F8712DDC155749C12574B800484403/$FILE/1139%20uv080903.1139.pdf (Czech).
7. Samm A et al. (2010). Suicidial Thoughts and Depresive Feelings amongst Estonian Schoolchildren: Effect of Family Relationship and Family Structure. Eur Child Adolesc Psychiatry. 19(5): 457–468.
8. Sdružení Linka bezpečí dětí a mládeže. 10 let Linky bezpečí [Safety Line Association. 10 years of the Safety Line]. [online] 2010 [cit. 2011-6-24]. Available at: http://www.linkabezpeci.cz/webmagazine/kategorie.asp?idk=239 (Czech).
9. Svoboda M, Krejčířová D, Vágnerová M (2009). Psychodiagnostika dětí a dospívajících [Psychodiagnostics of Children and Adolescents]. 1st ed. Praha: Portál. 792 p. (Czech).
10. Vágnerová M (2005). Vývojová psychologie I [Developmental Psychology]. 1st ed. Praha: Karolinum. 468 p. (Czech).
11. Veselý M (2011). Vybrané kapitoly ze sociální patologie [Selected Chapters from Social Pathology]. 1st ed. České Budějovice: Jihočeská univerzita v Českých Budějovicích, Zdravotně sociální fakulta. 127 p. (Czech).
12. Vodáčková D et al. (2002). Krizová intervence I [Crisis Intervention]. 1st ed. Praha: Portál. 544 p. (Czech).
13. WHO, World Report on Violence against Children. [online] 2006 [cit. 2011-7-1]. Available at: http://www.crin.org/docs/UNVAC_World_Report_on_Violence_against_Children.pdf

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