

INTERACTIVE EDUCATION-PREVENTIVE PROGRAMME AS EFFICIENT PREVENTION MEANS FOR CONTACT OF CHILDREN AND DOGS

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Abstract

The paper reflects the efficiency of the new interactive education-preventive programme that has demonstrated improved children's knowledge in the area of basic rules of safe contact with dogs. The goal of the quantitative study consisted in comparing, with the help of pilot and feedback questionnaires, children's knowledge in the area of responsible and safe approach to dogs before and after passing the interactive educational prevention programme. The questions of the pilot questionnaire mapped the basic children's knowledge and experience with regard to their approach to dogs. The feedback questionnaire assessed purposefully the children's knowledge acquired after passing the programme. The research was focused on the level of improvement of children's knowledge on safe approach to dogs.

The research file consisted of elementary school pupils of South Bohemian region aged 8–12 years. The age of the respondents was limited till the period of "medium school age", described by professor Matějček as a period of essential changes in children's approach to dogs, that can potentially give rise to conflict situations.

Thanks to high-quality work of the research team, to the help of teachers and last but not least to cooperation of pupils, the data of 583 interviewed children could be processed in the end.

To provide clear arranged evaluation of the study results, the author used percentage representation and the independence test in contingency tables, so called Pearson's chi squared test.

The results of compared questions from the pilot and the feedback questionnaires showed different numbers of correct answers in percentage assessment. Statistic dependence of the answers was demonstrated in 12 compared questions of the pilot and the feedback questionnaires. The pupils' knowledge is different after passing the interactive education-preventive programme. All compared questions showed an increased rate of choice of correct answer. It is therefore possible to confirm the improved level of pupils' knowledge of rules of safe contact with a dog after passing the interactive educational prevention programme.

Preventive activity helps the children clarify potential risks of the contact and, through unique personal experience, to strengthen the rules of safe approach to dogs. The paper presents the results of the research study that compares knowledge of elementary school pupils before and after passing the new preventive programme in order to confirm or disprove its efficiency on the target population – children. The interactive education-preventive programme for children was created under support of the Ministry of Health of the Czech Republic, the Institute of Health and Social Work of the University of South Bohemia in České Budějovice and Hafík, Training Dog Therapy Association.

Key words: *child; dog; education; preventive programme; efficiency*

INTRODUCTION

In order to eliminate incidence of children's injuries caused by dogs, many foreign specialist for prevention tend towards experience preventive programmes which leave in final population not only theoretical knowledge of rules of safe contact with a dog but above all a deep personal experience. As being mentioned in a Swiss retrospective study, just experience interactive programmes have pivotal meaning and significance in the development of relationship between a child and a dog (Fossati 2004, Gilchrist et al. 2008).

Interactive educational moduli manifest positive influence on behaviour of target population. A contact form of educational intervention leaves in children an irreplaceable experience which helps increase circumspection and decrease risk behaviour during the contact with a dog (Duperrex et al. 2009).

Even Wilson et al. (2003) have described an experience programme as one of the most effective ways how to improve the quality of knowledge of children in responsible and safe approach to dogs. The programme made up of theoretical information and practical demonstrations which are mediated to children in a safe manner indisputably offers an opportunity for broadening knowledge as well as practical skills. Safe way of mediation these experience is just the contact with specially canned dogs (e.g. dog with canistherapeutic training, assistance contract dog, guide dog, ...).

Positive effect of preventive programmes of this type was also confirmed by an American study. In cooperation of four organizations a preventive module based on a direct interaction between a child and a dog arose. Pupils of the first level of primary schools were presented by potentially risk situations which pursuant to foregoing research seemed to be the major cause of occurrence of conflict between a child and a dog. These were fast motion, unexpected sounds, disturbance of dog territory, contacting the dog during relaxation and unfamiliarity with dog communication signals. The experience programme offered children an opportunity to try on in a safe form various possibilities of approach to dogs and acquire worth experience (Jalongo 2008).

In terms of the number and quality of preventive activities designed for education of safe co-existence of a child and a dog the Czech Republic cannot be compared with foreign programmes yet. The elements of further education and preventative measures in relation between a child and a dog can be found in activities of interest cynology associations or civil associations, however, the scope of these institutions is far from covering needs of the whole target population – children. Even if cynology associations share particular information on rules of co-existence a man with a dog among their members, the content of this hobby education is gained only by a small part of child population which is interested in the area of cynology on purpose. However, how shall be the necessary information on rules of responsible and safe approach to dogs delivered to a larger part of child population? Especially the one which does not have an opportunity or interest to attend similar hobby clubs but nevertheless faces the same hazards at contact with dogs (Chlopčiková and Eisertová 2011)?

From the point of view of education process above all the primary schools dispose of no small potential for mediation of prevention of target population. Even one-shot preventive intervention in educational facilities bring positive results and participates in decrease in risk connected with unsuitable approach of pupils to animals (including dogs) (Duperrex et al. 2009).

The author of this paper has therefore in co-operation with the results of own research study (which in its first stage pointed out to risk factors in behaviour of children during the contact with a dog) designed a new educational programme with the name: "A Child and a Dog – Let's live together, in a responsible and safe way!" (Chlopčiková and Eisertová 2011).

The preventive programme comes out from zootherapy (animal-supported therapy) – cannistherapy (uses a dog), AAE (*Animal Assisted Education*) (Freeman 2007).

From the point of view of experience pedagogy the preventive programme is drawn to the form of so – called "cooperative education and situation teaching" whereas the activity of an individual is supported by the whole group vice versa. The basic resources of the programme are shared information,

cooperation in solving situation and all – round support of a group (Fossati 2004, Freeman 2007, Kasíková 2010).

Preventive activity functions on principle of immediate feedback under assistance of professional cynologists (canisterapeutical teams). Through active involvement of children into the contact with a specially canned dog canisterhapeutic teams can immediately identify wrong habits of children in their approach to dogs and therefore also the major signs of risk behaviour which anticipate an attack. Just thanks this transmissivity is the programme operationally up-dated and modified according to single needs of children in order to avoid future negative experience with dogs. The new preventive activity lays stress on understanding and acceptance dogs as a full - value entity which have similarly as a child their specific needs and various behaviour manifestations (Chlopčíková 2010, Chlopčíková and Cimlová 2012).

MATERIAL AND METHODS

The main goal of this research study was to compare knowledge of children in the sphere of responsible and safe approach to dogs before and after passing an interactive education-preventive programme by means of pilot and feedback non-standardized questionnaires. The questions of the pilot questionnaire mapped basic knowledge and experience of children on their approach to dogs. The feedback questionnaire already assessed the gained knowledge of children after passing the interactive, education- preventive programme with dogs (Chlopčíková et al. 2013).

The research file was formed by pupils of the first level of primary schools in South Bohemian region at the age of 8–12 years. The age of the respondents was limited to the period “medium school age” which has been described by Professor Matějček as a period of basic changes in children’s approach to dogs and which therefore can participate in origin of conflict situations (Matějček 2005).

Within the research process 30 primary schools in South Bohemian region have been invited. Cooperation was finally confirmed by 6 educational institution.

Research questions were modified to mental condition, social maturation and the age of the target group. The questionnaires were formed by close questions – polytomic-enabling the respondents to choose from possibilities, dichotomic – enabling choice from two options but also open questions with a possibility of self-expression (Olecká and Ivanová 2010).

An important part of the questionnaires were dog visual figures illustrating warning and soothing communication signals. The aim of the author was to map through this visualization basic children’s knowledge on communication signals and body language of a dog, especially on warning signals whose ignorance can present one of the reasons of negative experience with a dog.

Due to quality work of the research team, educators support and last but not least pupils’ co-operation the data of 583 interviewed children could be finally processed.

For transparent assessment of the results of the study the author used percent formulation and an independence test in contingent tables so-called Pearson Chi-quadrante test.

The aim of the research study was to verify the hypothesis if **“pupils’ knowledge keeps being the same one after passing the interactive education-preventive programme”**.

Following part of the paper includes contingent tables in which the author tried to compare pupils’ answers from the pilot and feedback questionnaires. The answers were converted into line percentage i.e. the sum of corresponding pupils in the pilot questionnaire and feedback questionnaire. To compare knowledge before and after passing the interactive education- preventive programme, 12 research questions focused on basic rules of safe contact with a dog were chosen. Representation on children’ answers was tested in contingent tables by means of Pearson Chi-quadrante test.

Each table includes achieved significance level according to Pearson Chi-quadrante test. If the final test value is less than 0.05, probability that different responses in children would arise only by chance, is lower than 5%.

RESULTS

Table 1. Who should the dog at your home listen to? (N 325)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
Child	108	33.00	6	2.00
Grandparents	45	14.00	10	3.00
Parents	165	51.00	305	94.00
Sibling	7	2.00	4	1.00
Total amount	325	100.00	325	100.00

At this questions children already in the first questionnaire most often chose right, the main authority for a dog are parents – 51% (n 165). After passing the preventive programme (where children were explained sensation of their role by a dog) the respondents used a correct answer (parents) already in 94% (n

305). The achieved significance level of Pearson Chi-quadrante test for the whole respond file of the pilot and feedback questionnaires is at this questions less than 0.0001 (1.3×10^{-33}). It can be then stated that children's responses were in both the questionnaires different. The responses show strong statistical dependence.

Table 2. Is it right to train a dog? (N 325)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
No	121	37.00	287	88.00
Yes	204	63.00	38	12.00
Total amount	325	100.00	325	100.00

The results of the first questionnaire show that children having a dog at home feel normal train the dog in 63% (n 204). However, as being explained to children during the preventive programme, a dog does not consider a child to be an authority at training. Just here can occur next risk situation at contact of a child with a dog. After passing the preventive programme the responses of the feedback questionnaire show that children have understood the significance of their role for a

dog from the training point of view. According to the responds of the feedback questionnaire 88% (n 287) of the respondents would not perform the risk activity with a dog. The achieved significance level of the Pearson Chi-quadrante test for the whole respond file of the pilot and feedback questionnaires is in case of this question less than 0.0001 (1.01×10^{-56}). It can be then stated that children's responses were different in both the questionnaires. The responds show strong statistical dependence.

Table 3. Is it right to punish a dog in case of his disobedience? (N 325)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
No	149	46.00	300	92.00
Yes	176	54.00	25	8.00
Total amount	325	100.00	325	100.00

As well as in the previous question, only responses of the children who have a dog at home (n 325) were compared. The responses in the first questionnaire showed

next phenomenon of incorrect sensation of children's self-role in relation with a dog. Children would not hesitate to punish the dog in 54% (n 176) cases. After passing the

preventive programme already 92% (*n* 300) of the respondents would not punish the dog. The achieved significance level of Pearson Chi-quadrate test for the whole respond file of the pilot and feedback questionnaires is at

this questions less than 0.0001 (4.5×10^{-28}). It can be then stated that children's responses were in both questionnaires different. The responds show strong statistical dependence.

Table 4. Is it right to put your hand into dog's bowl with feeding? (N 325)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
No	235	72.00	325	100.00
Yes	90	28.00	0	0.00
Total amount	325	100.00	325	100.00

The bowl with feeding would not hesitate to touch according to the pilot questionnaire 28% (*n* 90) of the children. Disturbance of dog's territory is one of the riskiest factors antecedent to conflict. In both questionnaires the children mostly chose the correct answer "no". The achieved significance level of Pearson

Chi-quadrate test for the whole respond file of the pilot and feedback questionnaires is at this questions less than 0.0001 (3.2×10^{-27}). It can be then stated that children's responses were in both questionnaires different. The responds show strong statistical dependence.

Table 5. Is it right from you to touch the dog while feeding? (N 325)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
No	226	69.00	325	100.00
Yes	99	31.00	0	0.00
Total amount	325	100.00	325	100.00

Even if in both questionnaires the most respondents chose the correct response "no", some bold fellows could be found among the children in the pilot stage of the research who would disturb the dog while feeding on the whole in 31% (*n* 99). The achieved significance level of Pearson Chi-quadrate

test for the whole respond file of the pilot and feedback questionnaires is at this questions less than 0.0001 (3.2×10^{-27}). It can be then stated that children's responses were in both questionnaires different. The responds show strong statistical dependence.

Table 6. What will you do when a strange dog comes to you? (N 583)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
I will ignore the dog	59	10.00	527	90.00
I will touch the dog	397	68.00	0	0.00
I will drive the dog	96	17.00	23	4.00
I start running	31	5.00	33	6.00
Total amount	583	100.00	583	100.00

According to responds from the first questionnaire it is evident that 68% (*n* 397)

of children would not hesitate to contact a strange dog. After passing the preventive

programme and explanation of risks the children chose the correct version “I will ignore the dog” in 90% ($n = 527$) respond. The achieved significance level of Pearson Chi-square test for the whole respond file of the

pilot and feedback questionnaires is at this questions less than 0.0001 (1.8×10^{-176}). It can be then stated that children’s responses were in both questionnaires different. The responds show strong statistical dependence.

Table 7. What will you do when a strange dog comes to you and snarls? (N 583)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
I will ignore the dog	504	86.00	523	90.00
I will touch the dog	20	3.00	0	0.00
I will drive the dog	34	7.00	7	1.00
I start running	25	4.00	53	9.00
Total amount	583	100.00	583	100.00

Warning signal (“dog snarl”) would discourage the most pupils from direct contact in both questionnaires. It seems to be a positive finding that the children spontaneously understand the importance of a warning signal which a dog uses to warn an enemy to his displeasure. The achieved

significance level of Pearson Chi-square test for the whole respond file of the pilot and feedback questionnaires is at this questions less than 0.0001 (7.5×10^{-16}). It can be then stated that children’s responses were in both questionnaires different. The responds show strong statistical dependence.

Table 8. How do you get familiar with a dog in a right way? (N 583)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
I let the dog take a sniff at me	204	35.00	526	90.00
I touch the dog	336	58.00	0	0.00
I start talking to the dog	43	7.00	57	10.00
Total amount	583	100.00	583	100.00

The basic rule of safe first contact with a dog was right chosen in the pilot questionnaire only by 35% ($n = 204$) of the respondents. After passing model situations during the preventive programme pupils grasped the meaning of this rule and in the feedback questionnaire the correct answer was chosen in 90% ($n = 526$). The achieved

significance level of Pearson Chi-square test for the whole respond file of the pilot and feedback questionnaires is 5.9×10^{-105} which means that children’s responses to this question are in both questionnaires different ($p < 0.0001$). The children’s responses in the pilot and feedback questionnaires show strong statistical dependence.

Table 9. What shall you do when you would like to stroke a strange dog? (N 583)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
Catch the dog for his collar	95	16.00	12	2.00
I will wait for his owner and ask	411	71.00	526	90.00
Call in the dog	77	13.00	45	8.00
Total amount	583	100.00	583	100.00

The pupils in their responses to the question "What shall you do when you would like to stroke a strange dog?" knew very well the necessary sequence of the first contact with the dog master before the single contact with the animal. Although the number of correct responses was praiseworthy in the pilot questionnaire, the number of correct responses in the feedback questionnaire was successfully increased through the preventive

programme. The achieved significance level of Pearson Chi-quadrante test for the whole response file of the pilot and feedback questionnaires is 1.4×10^{-19} which means that children's responses to this question are in both questionnaires different ($p < 0.0001$). The children's responses in the pilot and feedback questionnaires show strong statistical dependence.

Table 10. Where shall be stroked a dog correctly? (N 583)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
On his back	186	32.00	58	10.00
From hip to chops	182	31.00	461	79.00
Behind his ears	215	37.00	64	11.00
Total amount	583	100.00	583	100.00

31% (n 182) of children would successfully stroke a dog in the right place before the preventive activity. Thanks the model situations (during which the children could try out all options of dog stroke) the respondents succeeded to bring closer meaning of this communication gesture from ethological aspects. In the feedback questionnaire pupils then more often chose a correct option

in 79% (n 461). The achieved significance level of Pearson Chi-quadrante test for the whole response file of the pilot and feedback questionnaires is 2.4×10^{-59} which means that children's responses to this question are in both questionnaires different ($p < 0.0001$). The children's responses in the pilot and feedback questionnaires show strong statistical dependence.

Table 11. How can a dog feel our human smile with bare teeth? (N 583)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
I do not know	90	15.00	42	7.00
Endangering	23	4.00	530	91.00
Challenge to play	470	81.00	11	2.00
Total amount	583	100.00	583	100.00

Children had considerable problems with understanding differences in communication

manifestations between a man and a dog in the pilot questionnaire. Human smile with

bare teeth was understood wrong by children in 81% ($n = 470$) – as a motivating gesture for starting a game with a dog. Only 4% ($n = 23$) of the respondents marked it as a potentially risk gesture in the first questionnaire. After visual demonstration of a model situation during the programme the children better understood how can an animal understand smile with bare teeth and why shall be

this manifestation avoided. The achieved significance level of Pearson Chi-square test for the whole respond file of the pilot and feedback questionnaires is 1.5×10^{-200} which means that children's responses to this question are in both questionnaires different ($p < 0.0001$). The children's responses in the pilot and feedback questionnaires show strong statistical dependence.

Table 12. How can a dog feel steady gaze? (N 583)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
I do not know	40	7.00	32	5.00
Endangering	414	71.00	541	93.00
Challenge to play	129	22.00	10	2.00
Total amount	583	100.00	583	100.00

It is interesting that children were aware of potential risk of steady gaze to animal eyes already before the programme. The whole 71% ($n = 414$) answered the question in the first questionnaire right. A dog can feel the exist gesture as endangering. The respondents who chose in the first questionnaire another response, tended more often after passing the programme towards correct response

in 93% ($n = 541$). The achieved significance level of Pearson Chi-square test for the whole respond file of the pilot and feedback questionnaires is 1×10^{-26} which means that children's responses to this question are in both questionnaires different ($p < 0.0001$). The children's responses in the pilot and feedback questionnaires show strong statistical dependence.

Table 13. Responses to visual figures of dog speec (N 583)

	Ques. 1	Ques. 1 (%)	Ques. 2	Quest. 2 (%)
He wants to play	420	72.00	542	93.00
He wants to attack	373	64.00	511	88.00
He is friendly	385	66.00	507	87.00
Worried	356	61.00	501	86.00

According to the results it can be stated that children already before the programme differentiated very well in particular pictures differences of warning and soothing signals of dog body language. The most difficult illustration of a dog for children was a visual figure of a scared animal. The achieved significance level of Pearson Chi-square test for the whole respond file of the pilot and feedback questionnaires is 0.78 which means that children's responses to this question are not different in both questionnaires ($p < 0.01$). The children's responses in the pilot

and feedback questionnaires do not show statistical dependence.

DISCUSSION

The aim of the quantitative study was with the help of pilot and feedback questionnaires to compare children's knowledge in the sphere of responsible and safe approach to dogs before and after passing an interactive education – preventive programme. The questions of the pilot questionnaire mapped

basic knowledge and experience of children about their approach to dogs. The feedback questionnaire already targeted assessed the gained children's knowledge after passing the programme.

The research subject was the level of quality improvement of children's knowledge in safe approach to dogs. In the research file girls (53%, *n* 311) predominated boys (47%, *n* 272).

In terms of potential risk factors during contact between a child and a dog professional literature draws attention to specifics of sensation of members of human families by a dog and the own role of a child. Hierarchical positions of members of a human family (for a dog "a pack") the dog feels similarly as in the animal pack. A dog always considers a dominant individual the strongest family member – an alpha individual. Never, however, a weaker member – e.g. a child (Galajdová and Galajdová 2011).

In an effort to find out how children perceive themselves at contact with a dog, respondents should answer a question about perceiving their own role during the contact with a dog. Although the more numerical group of pupils mentioned in their responses that a family dog should mind parents (an adult person), it was evident from their schoolmates' responses that 33% (*n* 108) perceives mistakenly themselves as the main authority for a family dog. Here it was manifested not only children's persistence and endeavour to rival the adults but especially potentially significant risk in coexistence of both participants. As being mentioned by Matějček: "the middle school age" presents at child the time of maximum extroversion which is characterised by self-reliance and explicitness to surrounding world. Friendly approach and tolerance of a dog, however, children mistakenly understand as manifestation of own significance and precedence above the animal which presents certain diversification (Matějček 2005, Galajdová and Galajdová 2011).

After passing the preventive programme (where the child were explained perception of their role by a dog) the respondents used a correct answer (parents) already in 94% (*n* 305).

In the section of questions mapping perception of children's own role in relation to a dog the respondents were given with

additional four questions (*Is it right to train a dog?, Is it right to punish the dog when he disobeys you?, Is it right to dip into dog bowl with feeding?, Is it right to touch the dog during feeding?*).

Beyond control of an adult 63% (*n* 204) of the respondents at the age of 8–12 years would train a family dog. To harder educational practice (physical punishment) would take courage 46% (*n* 149) of pupils. Even if a family dog indisputably teems with a certain dose of leniency and tolerance to own members of a pack (human family), direct physical punishment from an individual that he considers behind authority, can be understood as direct endangering and ground for defence (Mikulica 2004).

A question remains if children would act similarly also during a contact with another known dog (e.g. during visit at relatives)? Just attack by a known animal during attempts for education is one of the most frequent reasons of painful experiences of children with dogs hidden below Dg. W54 – "dog bite or impact dog" (Melichárková 2006, Gilchrist et al. 2008).

The preventive programme also included the above – mentioned risks. Pupils learnt through a model situation the meaning of reward and punishment for a dog. It was again mentioned animal perception of authority in a human pack and the role of a child.

Children's responses in the feedback questionnaire to questions *Is it right to train a dog? and Is it right to punish a dog when he disobeys you?* confirmed the positive effect of a preventive programme. Children chose more often the correct response "no" to both questions.

The very popular activities of school age children include care of a dog and his feeding. However, everyday care of a dog has also its rules. Within the research 325 respondents with a dog at home were asked if: *Is it right to dip into dog into bowl with feeding? and Is it right to touch the dog during feeding?* Into the bowl with dog feeding would dip 28% (*n* 90) of the respondents. 31% (*n* 99) of the respondents would physically contact the dog during his favourite daily activity – food intake. Children are often fairly fascinated seeing that they can feed a dog or give him food directly from hands. However, in terms of rules of safe contact with a dog contacting

him during food intake can be another risk activity for the child (Endenburg and Ohl 2007).

During preventive activities possible risks during manipulation with a bowl and contacting a dog during food intake were explained to pupils. The responses in the feedback questionnaire showed understanding risks and improving knowledge on approach to a dog during food intake.

Pursuant to long cynology and canisterapeutic practice and experience the author decided to file into the questionnaires also questions concerning basic rules “of children’s first” contact with a dog.

The question *What will you do when a strange dog comes to you?* was answered wrong by 68% ($n = 397$) – *I will stroke the dog*. A significant risk factor in children approach to dogs was shown here. Just a direct physical contact with a strange dog hides series of risks. Endeavour to get, engage or force attention does not need to be connected with irritation or intentional torture of an animal. Unfortunately also positively guided movements with high level of determination can invoke in the animal fear and misunderstanding (Janoušek et al. 2003).

During the preventive programme the risks and rules of the first contact with a dog were explained to children. The direct contact with a dog would be avoided according to responds in the feedback questionnaire by 90% ($n = 527$) of pupils.

Pupils’ responses to the question *What will you do when a strange snarling dog comes to you?* showed that manifestation of dog displeasure (snarling) would discourage from direct contact 87% ($n = 504$) of the respondents in the first stage of the research. It is interesting that children are able to distinguish a potential risk of conflict in case of a snarling dog but a strange dog without any vocalic manifestations arouses no fear in them. Also in case of this question the amount of correct responses has increased after seeing the preventive activity.

The question *How do you get familiar with a dog in a right way?* 58% ($n = 336$) of the respondents chose the wrong response – *I will stroke the dog*. The primary odour contact between a dog and a man is, however, quite natural communication technology for

an animal and underflow this basic need can bring its risks (Mikulica 2004).

During the preventive activity children got familiar with the meaning of odour and sniff for a dog during the first contact with a man. Even this question was then more often correct answered in the second questionnaire.

The question *What shall you do when you would like to stroke a strange dog?* was answered correctly in the pilot as well as feedback questionnaires (*I will wait for his owner and ask*) by the most respondents. The rules of safe contact with a strange dog certainly include respect of the owner who knows the dog best. He knows dog reaction to strangers and if he is safe for surroundings.

Pupils very well knew necessary sequence of the first contact with the dog master before the contact with the animal. Although the number of correct answers was praiseworthy in the pilot questionnaire, the preventive programme still increased the number of correct answers in the feedback questionnaire.

In terms of physical contact between a child and a dog it was necessary to find out how pupils would contact the dog. Where would they put their hand while stroking the animal?

According to the answers the dog would stroke wrongly “behind the ears” 37% ($n = 215$) of pupils. Neither the second most chosen answer (“at his back”) 32% ($n = 186$) would be without any problems for the respondents in terms of the rules of safe contact with a dog. 31% ($n = 182$) of the interviewed children would successfully stroke a dog in the right place “from hip to chops“. A dog even after long common life with a man all the time keeps hierarchical perception of his surroundings. A stranger (a child) is always perceived by a dog as a new object which he does not know. Curiosity and watchfulness are therefore his right features of character. Right here it is necessary to come to an animal with open palms and move in the visual field of the animal, not behind him (e.g. behind ears, on the neck, on the back, ...) (Gilchrist et al. 2008).

Due to model situations (when children could try all variants of stroking a dog) children got familiar with the meaning of this communication gesture from ethological aspect. In the feedback questionnaire then

pupils chose more often a correct variant “from hip to chops” in 79% (n 461).

In order to find out current children’s knowledge on different perception of meaning of nonverbal communication signals at a man and a dog, two gestures which a dog can feel otherwise than a man – “smile with bare teeth” and “steady gaze” were put into the questionnaires.

While a broad smile with bare teeth symbolizes in human eyes a pleasurable perception, a dog can feel it as endangering (Mikulica 2004).

The risks of the first gesture (“smile with bare teeth”) did not know and as “invitation for a game” with a dog felt in the responses of the pilot questionnaire 81% (n 470) of the pupils. Here can be identified another risk during the direct contact between a child and a dog. Especially then a strange dog which is not used to such demonstration of friendliness (“smile with bare teeth”) on the part of a child. After visual presentation of a model situation during the programme the children better understood how an animal can understand a smile with bare teeth and why to avoid this manifestation. Considering the answers of the feedback questionnaires the children already chose the correct variant “endangering” in 91% (n 530).

The pupils were better aware of meaning of direct eye contact with a dog when in 71% (n 414) of responds a correct variant that the dog can this manifestation feel as “endangering” was chosen. The respondents who chose in the first questionnaire another response, after passing the programme tended more often to the correct response in 93% (n 541).

The final part of the questionnaires mapped children’s awareness of warning and soothing communication signals of dog body language. The respondents recognized the meaning of body language of a dog pictured in the picture. The drawings presented two positive – safe (invitation appeal for a game and friendly posture) and two negative – risk (fear and aggressive threat) of position of a dog body.

According to the results it can be stated that children already before the programme differentiated very well in single pictures differences in warning and soothing signals of dog body language. The most difficult

illustration of a dog was for children a visual figure of a scared animal. “Fear” on the third visual figure was successfully recognized in the pilot as well as feedback questionnaires by the smallest number of the respondents – 61% (n 356) × 86% (n 501). Warning fear signals are one of the riskiest manifestations of a dog. Just a scared animal can be an initiator of negative reaction and a certain source of negative manifestation (Mikulica 2004).

To improve the quality of knowledge on “dog body language” children were demonstrated during the preventive programme with particular signs of positive and negative manifestations on a dog body by means of visual aids (roll-up). There were pictured dog positions with description of important signs and manifestations on his body. Even these questions showed increasing choice of correct variants in the feedback questionnaire. Children also improved themselves in correct reading of dog body language.

Art to recognize and ability to assess gesture and manifestations which a dog uses to signalize his emotion and current state of mind are necessary for mutual common life of children and dogs. Many conflict situations and painful experiences can be then avoided (Bailey 2002).

The results of the compared questions from the pilot and feedback questionnaires proved already during percentage assessment different numbers of correct answers. 12 compared questions of the pilot and feedback questionnaires were proved with statistical dependence of the answers which rebutted zero hypothesis of the doctoral thesis and confirmed the alternative hypothesis.

Pupils’ knowledge is different after passing the interactive education-preventive programme. Within all compared questions a rising choice of correct responses occurred. It can be therefore confirmed improvement of pupils’ knowledge on rules of a safe contact with a dog after passing an interactive education-preventive programme.

At the questions comparing answers to visual figures of dog body language the statistical dependence between responses of the pilot and feedback questionnaires was not proved. Even here, however, came to increase of correct responses.

CONCLUSION

The preventive programme was created with the aim to get children familiar with risk situations during contact with a dog in an understandable way. The research study which compared pupils' knowledge before and after passing the preventive programme confirmed the positive effect of the activity. The quality of pupils' knowledge after seeing the preventive programme was evidently different. The choice of correct answers in the tested questions of a questionnaire has increased.

The current form of the programme meets very positive response of children, parents as well as pedagogues. Positive reference bring increasing inquiry from other educational institutions. The interactive education-preventive programme was participated **by 1960 pupils of the first level of primary schools** in South Bohemian region. The programme is still in progress as a single activity in primary schools, stay

(camps, recovery stays) as well as adventure actions for children. Methodical as well as practical content of the activity remains quite in competence of specialists of the Training Canisterapeutic Association Haffik in order to maintain professionalism and professional development.

Preventive programmes of this type have indisputably meaning and sense in positive development of relation of a child and a living creature. The interactive educational modulus proves unmistakable influence on behaviour of target group. Especially the contact form of the education process with presence of a dog leaves in children irreplaceable experience thanks to which resulting decline of risk behaviour happens (Chlopčíková 2010).

CONFLICT OF INTEREST

The author has no conflict of interest to disclose.

REFERENCES

1. Bailey G (2002). Pes a jeho řeč. Vše o tom, jak porozumět chování psa [A Dog and his language. Everything about the way how to understand dog's behaviour!]. Praha: Ottovo nakladatelství, 96 p. (Czech).
2. Chlopčíková M (2010). Závěrečná zpráva projektu MZČR: Dítě a pes – Jak žít společně bezpečně? Final MZČR project report. A Child and a Dog – How to live together in a safe way? České Budějovice: Ústav sociální práce – Centrum zoorehabilitací, Zdravotně sociální fakulta (Czech).
3. Chlopčíková M, Eisertová J (2011). Dítě a pes – Jak žít společně bezpečně! [A Child and a Dog – How to live together in a safe way!]. České Budějovice: Jihočeská univerzita v Českých Budějovicích, Zdravotně sociální fakulta (Czech).
4. Chlopčíková M, Cimlová L (2012). Aktuální rizika a jejich řešení v přístupu dětí ke psům [Current Risks and their Solution in Children's Approach to Dogs]. Prevence úrazů, otrav a násilí. 2/9:139–149 (Czech).
5. Chlopčíková M, Cimlová L, Bicková J (2013). Současný stav preventivních aktivit v problematice úrazů způsobených psem u dětské populace v České republice [Present situation of preventive activities in injury problems caused by a dog in children population in the Czech Republic]. Prevention of injuries, poisoning and violence. 1/10: 59–66 (Czech).
6. Dupperrex O, Blackhall K, Burri M, Jeannot E (2009). Education of children and adolescents for the prevention of dog bite injury. The Cochrane Database of Systematic Reviews. [online] [cit. 2010-01-05]. Available from: <http://mrw.interscience.wiley.com>
7. Endenburg N, Ohl F (2007). Pes a dítě [A dog and a child]. Praha: Grada Publishing, 62 p. (Czech).
8. Fossati R (2004). Dogs teach and children learn in two elementary schools. People and Animals: A timeless Relationship: 10th International conference on Human-Animal interactions IAHAIO 6th–9th October, Glasgow, p. 87.

9. Freeman M (2007). Terminologie v zooterapii. In: Velemínský M et al. Zooterapie ve světle objektivních poznatků [Zootherapy in the light of objective knowledge]. České Budějovice: Nakl. Dona, s. r. o., p. 30–37 (Czech).
10. Galajdová Z, Galajdová L (2011). Canisterapie – Pes lékařem lidské duše [Canistherapy-a dog as a healer of human soul]. Praha: Portál, 168 p. (Czech).
11. Gilchrist J, Sacsks J, White D, Kresnow MJ (2008). Dog bites: still a problem? *Injury Prevention*. 14: 296–301.
12. Jalongo RM (2008). Beyond a pets theme: teaching young children to interact safely with dogs. *Early Childhood Educational Journal*. 36: 39–45.
13. Janoušek S, Zvadová Z, Kodl M (2003). Aby pes nekousl [To be not bitten by a dog]. Praha: Státní zdravotní ústav, 19 p. (Czech).
14. Kasíková H (2010). Kooperativní učení, kooperativní škola [Cooperative learning, cooperative school]. 2nd ed. Praha: Portál, 152 p. (Czech).
15. Matějček Z (2005). Prvních šest let ve vývoji a výchově dítěte: normy vývoje a vývojové milníky z pohledu psychologa, základní duševní potřeby dítěte, dítě a lidský svět [First six years in child development and education: rules of development and development miles from psychologist's point of view, basic mental children needs, a child and human world]. Praha: Grada Publishing, 182 p. (Czech).
16. Melichárková A (2006). Pes, který štěká, může i kousnout [A barking dog can even bite]. *Pes přítel člověka*. 6/50: 72–73 (Czech).
17. Mikulica V (2004). Poznej svého psa – etologie a psychologie psa Know your dog-ethology and dog psychology]. 3rd ed. Litvínov: Dialog, 312 p. (Czech).
18. Olecká I, Ivanová K (2010). Metodologie vědecko-výzkumné činnosti [Methodology of research activity Olomouc: Moravská vysoká škola Olomouc, o. p. s. (Czech).
19. Wilson F, Dwyer F, Bennet PC (2003). Prevention of dog bites: Evaluation of a brief educational intervention program for preschool children. *Journal of Community Psychology*. 31: 75–86.

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