

Výzkum efektivity preventivních intervencí všeobecné školské prevence v České republice a na Slovensku



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VÝCHODISKA: Představujeme design dvou částečně nezávislých randomizovaných kontrolovaných studií preventivní intervence. **CÍLE:** Cílem obou výzkumných projektů je zkoumat účinek školské intervence Unplugged na užívání návykových látek u žáků šestých tříd v České republice a na Slovensku. V České republice je navíc primárním cílem zkoumání účinku přídatné preventivní intervence n-Prevention, která navazuje na program Unplugged v 7. třídě. **SETTING:** Studie je realizována na základních školách v České a Slovenské republice v období 2012–2015. **METODY:** Česká republika – žáci: dotazník ESPAD 2010, dotazník „Strengthening Families“ a znalostní test; rodiče: dotazník „Strengthening Families“; učitelé: evaluační dotazníky a ohniskové

skupiny. Slovenská republika – žáci: slovenská verze dotazníku ESPAD 2007, škály na posouzení míry sebepřijetí/kompetentnosti, sebekontroly, vnímané vlastní účinnosti, odolnosti, kognitivní autonomie a sebehodnocení. **VÝSLEDKY:** Plánujeme sloučení dat z obou výzkumných projektů, abychom tak mohli dále zkoumat efekt metodiky Unplugged. Současně budeme využívat a porovnávat výsledky dosažené samostatně v obou zemích. Každý z výzkumných projektů také sleduje různé sekundární cíle. **ZÁVĚR:** Tyto aktivity by měly vést k zajištění dalších objektivně ověřených poznatků o různých aspektech efektivity intervence a k většímu množství hodnotných publikačních výstupů.

KLÍČOVÁ SLOVA: PREVENCE UŽÍVÁNÍ NÁVYKOVÝCH LÁTEK – UNIVERZÁLNÍ PREVENCE – ADOLESCENTI – ŠKOLSKÁ PREVENCE

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Studying the Effectiveness of School-based Universal Prevention Interventions in the Czech Republic and Slovakia



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BACKGROUND: In this paper, we introduce the designs of two semi-independent randomised controlled prevention trials. **OBJECTIVES:** The objective of both research projects is to examine the effect of a school-based prevention intervention, called Unplugged, on substance use in Czech and Slovak sixth-graders. In the Czech Republic, in addition, another primary aim is to study the effect of the n-Prevention intervention, which follows the Unplugged intervention in the seventh grade. **SETTINGS:** The settings were basic schools in the Czech Republic and Slovakia in the years 2012–2015. **METHODS:** Czech Republic – Students: ESPAD 2010, Strengthening Families Questionnaire, and knowledge test; Parents: Strengthening Families

Questionnaire; Teachers: evaluation questionnaires and focus groups; Slovak Republic – Students: the Slovak version of the 2007 ESPAD questionnaire and the self-liking/self-competence, self-control, self-efficacy, resilience, cognitive autonomy, and self-evaluation scales. **RESULTS:** We plan to pool the data from both research projects in order to further study the effect of Unplugged. Additionally, the independent results from both countries may be further compared and utilised. **CONCLUSION:** Research project pursues different secondary objectives – this should result in more evidence being provided on the various aspects of the effectiveness of the intervention and a higher number of valuable publications.

KEY WORDS: SUBSTANCE USE PREVENTION – UNIVERSAL PREVENTION – ADOLESCENTS – SCHOOL-BASED PREVENTION

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● 1 INTRODUCTION

Prevalence data from the Czech Republic clearly indicate the urgent need for effective preventive interventions targeting the use of alcohol, tobacco, and other drugs (ATOD) among young people. According to the 2012 ESPAD data from 16-year-old students, compared to most European countries, Slovakia and especially the Czech Republic are the countries with the highest prevalence of the past-30-day use of marijuana and hashish (Czech Republic 15%; Slovakia 9%; EU 7%), alcohol (Czech Republic 79%; Slovakia 60%; EU 56%), and cigarettes (Czech Republic 42%; Slovakia 39%; EU 28%; Hibell et al., 2012). Our goal is to actively search for effective prevention interventions.

An evaluation of the status of primary prevention in the Czech Republic was conducted in 2002 as part of the Phare Twinning Project on Drug Policy implemented in partnership between the Czech Republic and Austria. This project identified a number of other major drawbacks related to inconsistent coordination and control in the area of primary prevention (Miovský & van der Kreeft, 2002). One of them was the lack of research in the area of the evaluation of preventive programmes. According to Miovský et al. (2004), it is essential to carry out evaluation in order to provide evidence of the effectiveness of preventive interventions.

Evaluations of the effectiveness of drug use prevention programmes and data-based drug use prevention among Slovak schoolchildren remain rare (EMCDDA, 2013). Until recently no systematic randomised controlled prevention trial had been conducted in Slovakia. In the Czech Republic, Miovský et al. (2011) conducted a search of the Czech literature in order to ascertain what studies had been published within the previous 20 years and which of them met at least the general criteria for the implementation of evaluation studies of preventive interventions in terms of the evaluation of their impact/effectiveness. A total of five studies were identified, with two studies meeting high-quality standards in terms of their design and the methods used.

In the Czech Republic, one of the two attempts at systematic evaluation of a school-based substance abuse preventive intervention was the “Evaluation of the Primary Prevention Programme in the Prague 6 District” project (Miovský et al., 2006). They measured the differences between interventions consisting of: i) community-based and school-based primary prevention programmes and ii) the control group undergoing the so-called minimum prevention programme only (Miovský et al., 2006). The study design had several limitations in terms of the generalisability of the results: in particular, the quasi-experimental design involved no randomisation in the selection of participants (Miovský et al., 2004). The data from 25 schools (N = 1,142 seventh-grade basic school pupils) showed that the commu-

nity programme had a statistically significant effect in terms of its impact on substance use (mainly alcohol) in the children from incomplete families and those who showed relationship and communication problems with at least one parent (Miovský, Miovská, Řehan, & Trapková, 2007). The same applies to the level and character of the intervention. Therefore, the intervention under evaluation was found to exhibit features of specific rather than universal prevention.

The second study was performed as a response to high substance use prevalence figures in the general Czech youth population. A school-based, prospective, randomised, controlled prevention trial was conducted with basic school students in the Czech Republic (GACR No. 406/09/0119) (Gabrhelík et al., 2012a, 2012b, Miovský et al., 2014). A protective intervention, Unplugged, focused on the early-onset use of alcohol, tobacco, marijuana, and other drugs, was delivered to sixth-graders (mean age 12 years). The intervention was found to be generally effective. Our previous prevention trial found no effect on any drunkenness, any cannabis use, and daily tobacco use in the past month (Gabrhelík et al., 2012a). Additional preventive interventions delivered after the initial prevention programmes proved to be an option to maintain or even enhance the effect of the base intervention (Faggiano et al., 2008a; Cujipers, 2002; Tobler et al., 2000; Botvin et al., 1983). Furthermore, a delayed comprehensive effect of the intervention was identified, i.e. the effect is evident for four out of seven measured behavioural outcomes in the final wave as compared to the previous waves, numbered 2-5 (Gabrhelík et al., 2012a). For frequent smoking in the past 30 days, the effect of the intervention beginning at wave 5 was observed, with the maintained effect carried forward to wave 6; for any smoking and any cannabis use we observe that the effect observed in wave 3 is carried forward; for heavy smoking, where there was no effect in wave 4, the effect varies; the effect on recent frequent cannabis use diminished between waves 4 and 5, during the two-month summer holidays (Gabrhelík et al., 2012a). Taking into account the delayed effect of the intervention and its ineffectiveness in some indicators, an intervention that boosts the initial effect of Unplugged should be designed and studied. Thus, we propose a study to measure the effect of the Unplugged intervention delivered to sixth-graders together with a newly designed substance use preventive intervention delivered to seventh-graders.

Previous research has shown how parents' behaviour and attitudes and family structure can work either as risk or protective factors in relation to psychoactive drug use. Despite all this theoretical knowledge, there is a lack of comprehensive and exhaustive reviews focusing on parental risk factors, as well as exploring parents' difficulties/advantages when preventive measures are being imple-

mented (Fernandez-Hermida et al., 2012). The role of parents in preventive interventions should be studied further.

The authors from the Czech Republic and Slovakia have been pursuing this topic on a long-term basis. The outcomes of their work now form a core source of information for prevention professionals in this field. We aim to introduce research projects currently running in both countries and outline further steps that should be taken in close collaboration between both teams.

● 2 METHODS

Two semi-independent research projects are being executed in the Czech Republic and Slovakia between the years 2012 and 2015. While their study designs differ to some extent (see below), we believe that the data from both research projects may be pooled together and the effect could be studied further. Additionally, the independent results may be further compared and utilised. Finally, each research project pursues different secondary objectives; this should result in more evidence being provided on various aspects of the effectiveness of the projects and a higher number of valuable publications.

● 3 DESIGN AND OBJECTIVES OF BOTH RESEARCH PROJECTS

● Czech Republic

The design is a randomised, controlled, 3-arm, prospective prevention trial of the Unplugged school-based prevention intervention delivered to sixth-graders and of the subsequent intervention called n-Prevention, delivered to the same students in the seventh grade. The project consists of a baseline test and four follow-ups.

The primary objective is to evaluate the effectiveness of the Unplugged prevention intervention complemented with n-Prevention in comparison to the Unplugged prevention intervention alone and with no intervention (both serve as controls). The secondary objectives are: i) to identify the links between parenting/family factors and young people's substance use in both study arms in relation to the effectiveness outcomes; ii) to test the feasibility and fidelity of delivering the intervention in real settings, and iii) to test the reliability of the anonymous codes and link procedures.

● Slovakia

The study is designed as a randomised controlled prevention trial. The Unplugged school-based prevention intervention was delivered to sixth-graders. The project consists of a baseline test and four follow-ups.

The study aims to: i) verify the effect of the Unplugged universal school-based preventive intervention on the prevalence of drug use among schoolchildren (smoking cigarettes, alcohol consumption, marijuana use), ii) explore the

persistence of the effects of the programme in time (within the follow-up analyses), and iii) study the psychological processes of the effectiveness of the drug use prevention intervention among schoolchildren by means of mediation analysis.

● 4 PARTICIPANTS AND RECRUITMENT

● Czech Republic

The Unplugged preventive intervention is targeted at sixth-grade and seventh-grade students in the Czech Republic. Baseline testing was conducted in September and October 2013. The Unplugged intervention took place during the 2013/2014 school year. Subsequent follow-up tests are being administered, one at the end and one at the beginning of each school year. A three-year follow-up is planned.

For the baseline testing, stratified random sampling in the chosen regions was used to select eligible basic schools. Schools for children with special needs and 6-year and 8-year grammar schools (selective, rather elite schools generally for children aged 11-18 and 13-18 respectively) were also included in the sampling.

74 schools were then randomly assigned to one intervention or two control arms.

A total of 2,571 sixth-graders completed the baseline testing (in September 2013).

Participation in the research project was conditional upon affirmative written parental consent for all the eligible children. The study was approved by the Ethics Committee of the General University Hospital in Prague.

We also collected data from 1,931 parents of children participating in the research project. Only one parent could participate in the study, and it was not determined whether it should be the father or mother. The data collection took place in the first half of 2014. We collaborated with the teachers involved in the study project. Every teacher was financially motivated to collect as many questionnaires from parents as possible. Parents had the right to refuse to participate in the parent survey. Using unique anonymous codes enables us to link every parent questionnaire with a specific child.

● Slovakia

The Unplugged prevention intervention targets sixth-grade children in the Slovak Republic. The baseline testing was carried out in September 2013 and the Unplugged programme took place during twelve weeks in September-December 2013 (one lesson per week). Two subsequent follow-up tests were administered (one at the end of the Unplugged intervention and another three months later). Studying the distant effect of the programme in two additional follow-ups is planned (after 12 and 15 months).

For the baseline testing, the selection of the research sample of basic schools for the experimental and control groups (stratified randomisation) was used. The estimated number of basic schools from the East, Central, and West Slovak regions was 60 (30 schools for the experimental group and 30 for the control group). Computer randomisation of a complete list of all the basic schools in the Slovak Republic was used.

A total sample of 1,283 sixth-graders completed the baseline testing (in September 2013).

Participation in the research project was conditional upon affirmative parental consent for all the eligible children. The study was approved by the Ethics Committee of Pavol Jozef Šafárik University in Košice and the Ministry of Education, Science, Research, and Sport of the Slovak Republic.

● 5 INTERVENTION

The Unplugged prevention programme builds on a comprehensive social influence model (Sussman et al., 2004). Unplugged is designed as a true universal prevention curriculum targeted at sixth-graders (Miovský et al., 2014). The intervention is delivered by teachers in 12 lessons (four focus on knowledge and attitudes, four on interpersonal skills, and four on intrapersonal skills, mainly in relation to alcohol, tobacco, and cannabis use). The Unplugged intervention consists of a Teacher's Handbook, Students' Workbook, and the Cards. For further details please refer to Miovský, Šťastná, Gabrhelík, & Jurystová (2011). In both countries the 2007 version of the Unplugged intervention was used.

There is a difference between the Czech Republic and Slovakia in the period during which the intervention is delivered. While Unplugged is delivered during the course of one school year in the Czech Republic, the implementation period is three months in Slovakia.

Another difference between the two project designs lies in the follow-up prevention intervention. The effect of the Unplugged intervention has already been studied in the Czech Republic (Gabhelík et al., 2012a, 2012b). Therefore, in addition to Unplugged in the sixth grade, the Czech team will implement and study the follow-up n-Prevention intervention consisting of four lessons delivered in the seventh grade. The first two lessons of n-Prevention are introductory lessons focusing on social norms and normative beliefs, refusal skills, and gender differences. The remaining two core lessons are based on the recent knowledge gained about the neurological impacts of drugs of abuse. The neurological aspects of substance abuse were developed as neuroscience prevention for seventh-graders. Thus, the whole intervention is called nPrevention. Specifically, one 5-minute non-interactive video is presented to the children in each of the two lessons. The third lesson, named "Addictive Substances and the Human Brain", introduces how the

human brain works and how alcohol, tobacco, and marijuana alter the normal processes in the brain. "Development of Addiction and the Risks for the Young Human Brain" is the last lesson and further explains how drugs affect the brain and modify the processes in the brain. A series of interactive activities are carried out with the children after the video is presented at the beginning of the lesson.

● 6 MEANS OF DATA COLLECTION AND MEASURES

There are many tools, both web-based and pen-and-paper-based, that are used to collect various types of data within the course of the research project. We will only list the main ones. The participants in the intervention and two control groups completed a self-report questionnaire during the baseline study and the subsequent follow-ups. The data collection was computer-based. Each participant was given a sealed envelope with a unique code. This code had to be rewritten in the computer in order to start up the questionnaire session. Further, each participant had to fill in a self-generated unique code, which was pen-and-paper-based. The children were asked to rewrite this unique self-generated code in the web-based questionnaire form. The participants' codes allow the researchers to match questionnaires across follow-ups and with parents' questionnaires without using personal identifiers. The student questionnaires were administered by trained researchers. Absences and the reasons for absences during the baseline test and each round of follow-up testing were monitored.

● Czech Republic

The Czech version of the 2007 ESPAD (Csémy et al., 2009; Hibell et al., 2009) questionnaire, combined with the Family Empowerment Study Questionnaire – Child Version (e.g. Calafat et al., 2014), was used with the children.

Adapted Czech versions of the questionnaire were used with the children (Calafat, 2009a; only parts were used) and parents (Calafat, 2009b; the full version was used). They included scales on substance use, self-esteem, school performance, and personal disturbances (García & Gracia, 2009; Lamborn et al., 1991; Rosenberg, 1965), parenting styles, and parental control (Rohner et al., 1978; Rohner, 2005; Rohner & Khaleque, 2003). The questionnaire enabled us to collect data on demographics, substance use, substance use norms and attitudes, family rules on substances, family structure, problem behaviours, parenting skills, parenting style, educational engagement/aspirations, social, community, and cultural capital, information on parenting styles, parental control, warmth/affection, family adaptability and cohesion, etc.

The fidelity components – adherence and exposure – of the Unplugged programme in the intervention arm are continuously tracked via internet-based responses to questions

submitted by the teachers after the completion of each lesson. This data is further verified by the Regional Coordinators of the study. The children also respond to a brief questionnaire focusing on the participants' responsiveness (Dane & Schneider, 1998) after each lesson (pen-and-paper-based data collection). Other preventive activities that might possibly have interfered with the findings in the intervention and control groups but are not related to the trial are also monitored and assessed.

● Slovakia

The children from the experimental and control groups completed a self-report questionnaire during the baseline study and the subsequent follow-ups. Pen-and-paper data collection and a subsequent questionnaire scanning procedure were used. Every participant created his/her own personal code according to a given code algorithm. The children were asked to write this unique code in the two parts of the questionnaire. The participants' codes allow the researchers to match questionnaires across follow-ups without using personal identifiers. The questionnaires were administered to the schoolchildren by trained researchers. Absences and the reasons for absences during the baseline test and each round of follow-up testing were monitored.

The Slovak version of the 2007 ESPAD (Hibell et al., 2009) was the first part of the questionnaire used with the children (smoking cigarettes, alcohol consumption, marijuana use). The second part of the questionnaire enabled us to collect data on self-liking/self-competence, self-control, self-efficacy, resilience, cognitive autonomy, and self-evaluation. The fidelity components of the Unplugged programme were continuously tracked via internet-based responses to questions submitted by the teachers after the completion of each lesson.

● 7 DISCUSSION AND CONCLUSION

We introduced the designs of two semi-independent research projects running in the Czech Republic and Slovakia. The main differences in the evaluation of the effectiveness of Unplugged are: i) the duration of the delivery of the intervention is 3 months in Slovakia and 8 months in the Czech Republic; ii) the questionnaires have a different focus. However, the core questionnaire referring to substance abuse is the same for both countries (the ESPAD 2007 questionnaire), and iii) the different means of data collection (pen-and-paper in Slovakia and computer-based in the Czech Republic). Irrespective of the differences, both research teams collaborate and comment on the study designs in order to maintain basic comparability between the results on a certain level.

Furthermore, there is a history of one study of the effectiveness of the Unplugged intervention that was carried out in the years 2007-2010 in the Czech Republic. The Un-

plugged that was delivered to Czech sixth-graders in the 2007-2008 school year was found to be effective nearly three years after the baseline testing (Gabrhelík et al., 2012b). The results from the previous study may provide a reference frame for both recent studies.

An important issue in both studies is the feasibility and fidelity of delivering the intervention in real settings. In the Czech Republic, as well as in the Slovak Republic, only one School-based Prevention Specialist works in each school. The School-based Prevention Specialist is usually a teacher trained in school-based preventive interventions and is responsible for methodological guidance in the prevention of risk behaviours at his/her school, the coordination of preventive activities within the school, and the provision of information and basic counselling. In our former trial (Gabrhelík et al., 2012a) there was one teacher who was trained to deliver the intervention in one class only in the entire school. Thus, it may be useful to find whether one teacher is capable of delivering the intervention to all the classes at their school while controlling for the fidelity of the intervention. We employ a wide range of fidelity measures in order to examine the capacity of the teachers – School-based Prevention Specialists – during the delivery of the Unplugged intervention in its full length (12 lessons).

There is a lack of randomised controlled studies to collect data from children and their parents when studying the effect of the preventive intervention. It must be noted that it is important to make it possible to link the data from an individual child to his/her parent. Usually, there are two main reasons why parent data is not included in such studies. First, it is difficult to collect data from parents using anonymous codes and subsequently link a statistically satisfactory amount of child-parent data. Second, most studies encounter very low response rates from parents.

We are convinced that parents' perspective and role should be an inseparable part of the research interest when studying the effect of the preventive intervention. We therefore tried to overcome this using two unique sets of codes to link the child-parent data and to motivate teachers to help us to increase the response rates among parents as much as possible.

Both research projects have great potential for increasing the quality of the prevention science conducted in both countries. Besides the individual primary aims of both projects, we plan to pool the data from both research projects in order to further study the effect of Unplugged. Additionally, the independent results from both countries may be further compared and utilised. Finally, each research project pursues different secondary objectives; this should result in more evidence being provided on various aspects of the effectiveness of the intervention and a higher number of valuable publications.

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Role autorů: Roman Gabrhelík zpracoval prvotní verzi rukopisu. Všichni další autoři se podíleli na další fázi vzniku rukopisu a schválili jeho konečnou podobu.

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