

# REGIONAL STRATEGIES FOR PRO-FAMILY POLICY IN THE CARE OF RURAL CHILD

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**Abstract.** Health care of children and young people is part of a system of care of the so called “developmental age population.” In this system, prevention plays a key role. The aim of the study was, basing on the obtained results, to develop guidelines for the regional pro-family policy in care of a rural child. The study included children and young people of school age, from 14 to 19 years of age. Overall the analysis included 6,971 children and adolescents and 6,971 parents. Organization of health care of children and school adolescents depended on the solutions approved by individual founding bodies of Health Care Units and Regional Patients' Funds. The withdrawal of nurses from school was observed. The tasks of prevention character performed previously by nurses employed at schools began to be implemented within the framework of primary health care in the child's place of residence. For proper implementation of the tasks of school nurses and the proper development of school hygiene, it is important to establish a uniform and maximum number of pupils per one nurse, taking into account all circumstances, and to develop standards of care for the student, taking into account the age of the student, school type, and the region.

**Key words:** child, rural environment, health care, family-supporting policy

## Introduction

Modern concept of health care for students in Poland emerged from the strategy of the World Health Organization's “Health for All” and the concept of health promotion. It assumes that:

- the entire population of students, teachers and other school staff is the subject of actions,
- the main direction of activities is associated with primary prevention and health promotion, with maintaining the proper place for the secondary prevention and treatment,

- school should be an environment that supports health and aims at health-promoting school (Boutilier et al.1997; Hurelman et al. 1995).

To ensure equality of access to preventive health care to students in all types of schools across the country and to ensure the appropriate quality, the Institute of Mother and Child developed standards for preventive health care for students. They are divided into three components:

- standards for qualification and employment requirements of careers and their equipment in the place of work,
- standards of practice specifying what should be done with regard to the student or the school environment,
- indicators to assess the implementation of the standards of practice (Rasmussen et al. 2012; Sindall 2000).

Currently, standards are the basis for monitoring the functioning of the health, mainly in schools.

The aim of the study was, on the basis of the obtained results, to develop guidelines for the regional strategy of family policy in the care of rural child (exemplified by Zachodniopomorskie voivodship).

## Material and methods

1. 7 poviats were selected for research from among the total number of all of the poviats in Zachodniopomorskie province.

2. In the randomly selected poviats, the research covered all the schools with children below 14 years of age and adolescents aged 15–19 years of age from rural areas (information obtained from the Board of Education).

3. In the primary schools, studies included children up to 14 years of age – everyone from the 5<sup>th</sup> grade up.

4. In the secondary schools/high schools, the youth aged 15–19 years was involved – everyone from the 2<sup>nd</sup> and 3<sup>rd</sup> grade up. When determining the sample size and random selection, the desired precision of evaluation and representativeness of the data for the investigated Zachodniopomorskie province was provided.

The selection of research sample had random-targeted character (targeted - as it concerns only middle school classes and random – as it did not apply to individuals but to a group of people-students of the given class living in rural areas). The required sample size (children up to 14 years, and 15–19 years of age; in this study a common name was used: rural children) amounted to 5,321. Information on the behavior and health needs as well as socio-economic situation consisted of information obtained from the three surveys, i.e. from 6,971 children and 6,971 parents.

Of the total number of 27,193 questionnaires – 20,193 were obtained (return rate 73,2%), but after the rejection of incomplete (680) and blank (27) ones; 20,196 questionnaires – surveys were qualified for further analysis, containing 63,610 various information describing the investigated problem. The representativeness of the study sample was maintained. In developing the data collected during the study, electronic computing technology was used. Appropriate design of questionnaires and developed coding allowed to enter data into a computer directly from the questionnaires – with full control of the formal and logical information. Analysis of the data took into account mainly the calculation of intensity ratios of the socio-medical situation and health behavior of respondents and analysis based on universal variables.

For the purpose of statistic analysis, depending on the needs, the following statistical tests based on STATISTICA 6.0 were used, assuming the level of  $p = 0.05$ , which means that the probability of an error of some kind, i.e. rejection of hypothesis when it is true, does not exceed 5%.

- Test of independence  $\chi^2$  and  $\chi^2$  test with Yates' correction. Strength of the relationship was examined by calculating the coefficient of Yul that was a measure of correlation between the quality variables in the table  $2 \times 2$ , or, in case of a larger number of features, Cramer's V coefficient and Pearson's C contingency coefficient were calculated.
- Tests for two independent samples i.e. non parametric, the equivalents of Student t – test for unrelated variables: Mann-Whitney U Test.
- Test for n-samples, i.e. the non parametric equivalents of analysis of variance: Kruskal-Wallis rank sum test and  $\chi^2$  median test.
- Nonparametric correlations: Spearman's rank correlation coefficient used to describe the strength of correlation of quality characteristics that can be ordered. Like the Pearson correlation coefficient, it takes on a value of  $-1 \leq r_s \leq 1$ .
- To analyze the reliability of the questions used to describe the health behaviors of rural children the Cronbach's  $\alpha$  coefficient was used.

## Results and discussion

The guidelines to regional strategy for pro-family policy for the care of school-age children from rural communities. Health care of children and young people is part of system of care of the so-called "developmental age population". Prophylaxis plays a key role in this system (Panasiuk et al. 2010; Wdowiak et al. 2009; Woynarowska and Mazur 2003; Kruk 2013).

The provisions of the law on universal health insurance – according to the Article 170, p. 25 became ineffective. Article 92 Paragraph 1 and 2 of the Act of 7 September 1991 on the education system (Journal of Laws of 1996 No. 67, item. 329 and No. 106, item. 496), inter alia, authorize the Minister of Health and Welfare to determine by regulation the scope, organization and forms of health care of students.

Health care for children and young learners has been subject to the same legal regulations as well as the health care of other age groups of Polish society since 1999. The scope of health services available to children and young people is the same as for adults, and has already been defined in the Article 31 paragraph 1 of the Act of 6 February 1997, on universal health insurance. According to this provision, they are entitled to health services aimed at:

- preservation of health and prevention of diseases and injuries,
- early detection of disease,
- treatment,
- prevention of disability (Makara-Studzińska and Urbańska 2007; Woynarowska and Mazur 2004).

No specific legal regulations in 1999 concerning the terms and scope of preventive health services for children and young people have caused problems in previously functioning system of preventive examinations. Health care of children and young learners was dependent on the solutions adopted by different founding bodies of health care institutions and the Regional Health Funds. Nationally, organization of care was marked by great diversity. There was withdrawal of nurses from schools. The tasks of preventive character performed by nurses previously employed at the school began to be implemented within the framework of primary health care in the child's place of residence. Their range is the same as in previous years. Services were realized within the scope of competence of the family

doctor/primary health care, a family nurse, community midwife. In primary health care there are now the following forms of organization and financing of nursing services in the school medicine:

- independent public health care institution,
- individual contracts – individual nursing practice in relation to medicine education,
- group nursing practice – implemented under the group contract,
- non-public health care facility – created by nurses/hygienists of school to protect health care (Amadeo et al. 2003; Saaranen et al. 2006).

The National Health Fund finances health benefits, but does not support the funding of nurses posts in the educational environment. Statistical data for the school year 2005/2006 (report MZ-06) show, as in previous years, the implementation of universal preventive medical examinations remained at the same level, but one can see their minimal drop. Percentage of 6-year-old children and students of 3<sup>rd</sup> and 8<sup>th</sup> grades and those of the last secondary school classes, in which research was performed, was on average 82–99% – depending on the class and place of residence. A definite reduction in carrying out preventive examinations was marked in a group of students of 3<sup>rd</sup> grades, residing in the villages. Services for the health preservation, disease prevention and early detection of diseases in children and adolescents should be carried out by:

- promotion of healthy behavior,
- carrying out screening in children under the age of 18,
- creation of dispensary groups,
- performing vaccinations,
- prevention of dental care for children up to 18 years of age.

The information obtained from the National Health Fund shows that the state of child care in the educational environment varies greatly in different regions of the country. Execution of the tasks is carried out in an arbitrary manner, both in terms of its operation, and the method of financing. The information from NHF imply that this situation should no longer exist. It is imperative to harmonize the rules of hygiene functioning in the schools across the country, including children and young people of school age. The return of nurses to schools is strictly related to this issue (Foster et al. 2007).

According to the current administrative and organizational determinants, the posts for nurses working in schools should be ensured by local government. Funding of school medicine could be found in the NHP financial resources. The basic action to strengthen health and prevent infectious diseases is vaccination. The rules for immunization in children are defined in the Regulation of the Minister of Health and Social Welfare of 6 July 1998 on the principles of protective vaccination against infectious diseases Journal of Laws No. 94, item. 600 (Woynarowska et al. 2005; Zatoński 1992; WHO 2003; WHO 2005).

Compulsory vaccination of children and adolescents include: tuberculosis, diphtheria, pertussis, tetanus, polio widespread, measles, rubella, and hepatitis (newborns and infants, and students of higher and secondary medical schools, medical personnel exposed to HBV infection), as well as rabies (in patients suspected of being infected with rabies). Organization of immunization was conducted in accordance with the established rules:

1. Preparations were purchased by the Ministry of Health with budgetary funds.
2. Through sanitary and epidemiological stations they were transferred to units that conduct vaccination.
3. Immunization was performed in maternity wards, outpatient clinics for children and schools.
4. Supervision over vaccination was exercised by Sanitary Inspection (Barnekow et al. 2000; Fraga et al. 2005).

Following the introduction of health care reform, there has been a change in point 3: Vaccination is the responsibility of the doctor of Primary Health Care. In the first half of 1999 there was a decrease in the percentage of vaccinated children. This was associated with a loss, or keeping by their parents a substantial part of immunization cards, which are the documents needed to conduct the vaccination. These cards should be kept in the place of vaccinations. Following the introduction of the reform and the related right to choose a doctor, cards were given from out patient pediatric clinics and schools to children's parents. Many of them did not provide the cards to primary health care doctors, and some have not chosen up till now primary health care doctor for themselves and their children (Wojnarowska et al. 2005).

Most parents were accustomed to the fact that school surgeries and doctors clinics called children for immunization. However, many of the doctors of Primary Health Care in the first months of 1999 performed only immunization in children reporting spontaneously. Thus, as shown in the report for the first half of 1999 prepared for the Chief Sanitary Inspector, vaccination decreased from a few to several percent (in some parts of the country even more than 20%). In 1999 some actions were taken up with regard to this:

- Health Insurance Funds were obliged to include immunization with contracting health services.
- Sanitary Inspection conducted training for family doctors who previously did not carry on vaccination.
- Attention of heads of neonatal obstetric departments was drawn to the need to file immunization cards and send them to family doctors.
- Significant part of the lost vaccination cards were recovered or restored (Macnenbach et al. 2007).

It should be noted that in some provinces conducting vaccination in school surgeries was maintained or restored. Thanks to these activities at the end of 1999, the vaccinations rates reached the proportions close to the pre-reform rates.

The reporting data show that vaccination against tuberculosis, diphtheria, pertussis, tetanus, polio, hepatitis B in infants was performed at the level of previous years. In children over 2 years of age vaccination rates were at 99%. Slightly lower proportions were obtained in children in the second year of life (about 97%). A few percent lower than in previous years was this rate obtained for youth, especially of secondary schools. Disturbing phenomenon is the reduction in vaccination against Hepatitis "B" of medical schools students (vaccination – 91.7%) and students of medical universities (vaccinations – 73.4% a year earlier – 83.9%). In Wielkopolska region vaccination comprised only 37.9% of students (Makara-Studzińska et al. 2007; Wdowiak et al. 2009). As far as the dental care is concerned, children and young people are provided with treatment and preventive dental care. Data covering several years indicate that the proposed treatment involves about 30% of children of school age, and completed treatment applies only to about 80% of children.

Based on the results of sociological research, it was found that the greatest access to high quality services is provided by individual or group medical practices. Therefore, in the assumptions of systemic transformation in health care it was assumed that the target system of dental care will function on the basis of network of dental practices and dental specialty practices, which conclude contracts with the National Health Fund. Efforts should be made to put in the list of essential health services available to the insured a free of charge dentist (Regulation of the Minister of Health and Social Welfare of 2 November 1998 – an entry pertaining to treatment of children free of charge in full range of services).

The research results show that people with a high risk of tooth decay in Poland, account for 30% of the population of children and adolescents aged 11–15 years. Since the beginning of 1999, a public care prevention

program for children and adolescents with high-risk disease has been carried out. The purpose of this program is the incidence of dental care in children with high exposure to risk factors through individual focus and the impact of health education and professional prevention activities. Public program prevents tooth decay in children and adolescents with high exposure to decay and covers the whole targeted group. System measures include fluorine prevention through monitoring of brushing of teeth with fluorine compounds by the whole age group, separation from this group people with a particularly high risk of the disease and the inclusion of the separated group in professional, targeted preventive care. The school medicine operates on the border between two areas: education and health care. The founding body for schools is a local government (Curry et al. 1992). Some tasks performed for health promotion should be financed by the local government from the budget allocated to realization of the task, which is to protect and promote health. Local government is responsible for the organization of education and health care in their area. Ensuring the safety of children in schools is the responsibility of school principals (Panasiuk et al. 2010).

So it seems reasonable that some of the tasks performed in schools by nurses in learning and education environments in the field of health promotion were funded by the local governments (district, commune). Medical care for children in schools is financed by the National Health Fund. In the current situation it becomes necessary to provide grants to local governments for the implementation of the tasks of school hygiene, which should be of capital character (per 1 student) (Desenbury and Falco 1999). Guidelines for health care pro-family policy strategy (in the Zachodniopomorskie province):

1. Covering with an active and preventive medical care students from the rural environment:
  - systematic assessment of the health of students and early detection and treatment of congenital malformations,
  - improving the efficiency of immunization.
2. Provision of universal and regular dental care to rural children:
  - implementation of intensive health education, fluorine prevention, sealing of first molars fissures.
3. Prevention and resolution of problems of addiction (tobacco, alcohol, drugs, psychoactive substances):
  - protection of the youngest generation against the dangers of addiction,
  - family support in the fight against addiction of their children.
4. Promotion of a healthy lifestyle in a rural environment and taking actions for one's own health and the health of one's family.
5. Improvement in the level of health education, especially in disadvantaged rural communities:
  - health Education – at school setting,
  - health Education – at family setting.
6. Creation in all local governments (municipalities, counties) – promotion posts and health education:
  - monitoring and conducting health promotion at school level, the family level (in collaboration with organizations working at that level),
  - substantive verification of staff (where there are already such posts) – keeping of papers, departments of health promotion and health education.
7. Providing jobs for nurses in schools (after the introduction of system solution – reactivation of school hygiene):
  - a task for local governments.

#### 8. Development of sports infrastructure:

- activation of the sports teams,
- construction of gyms and playing fields (to ensure 100% satisfaction of needs),
- dissemination of corrective gymnastics for rural schools (currently only 48% of schools) (Wdowiak et al. 2009)

## Conclusions

For proper protection of preventive and medical care for children and young people of school age, nurses need to return to schools. They should safeguard the implementation of immunization, the organization of screening, detection of health risks. School nurses in close collaboration with physicians, should exercise care for dispensary groups of children, and cases of sudden illness should be addressed to the appropriate doctor of primary health care or emergency unit. Their responsibility should include activities in the field of personal hygiene and healthy lifestyle. This is very important in growing threats posed by technological advances, environmental pollution, and stress (Barnekow et al. 2000; Sindall 2000).

For proper implementation of the tasks of school nurses and the proper development of school hygiene, it is important to establish a uniform and maximum number of pupils per one nurse taking into account any conditions arising from the place of performing tasks (town, village). Also developing of standards of care for the student, taking into account the age of the student, school type, and region, become sergeant. Critical to the success of the project can also be a clear identification of sources of funding for school hygiene, which will ensure a comprehensive, consistent care for children and youth, regardless of place of residence (Rasmussen et al. 2012).

## References

- Amadeo M., Kurtz N., Cutter H.S. Abstinence, reasons for not drinking and life satisfaction. *Int J Addict.* 2003; 27: 707–716.
- Barnekow R., Rasmussen V., Rivett D. The European Network of Health Promoting Schools – an alliance of health, education and democracy. *Health Education.* 2000; 2: 61–67.
- Boutilier M., Mason R., Rootman J. Community action and reflective practice in health. *Health Promotion International.* 1997; 12: 69–75.
- Curry S.J., Kristal A.R., Bowen D.J.: An application of the stage of change model of behavior change to dietary fat reduction. *Health Education Research.* 1992; 7: 97–103.
- Dusenbury L., Falco M. Eleven components of off active drug abuse prevention curricula. *J Sch Health.* 1999; 65: 420–425.
- Foster J.H., Marshall R.J., Peters T.J. Comparison of the quality of life of cancer patients and alcohol dependents. *Qual Life Res.* 2007; 6: 646–648.
- Fraga M.F., Ballestar E., Paz M.F., Ropero S., Setien F., Ballestar M.L., Heine-Suñer D., Cigudosa J.C., Urioste M., Benitez J., Boix-Chornet M., Sanchez-Aguilera A., Ling C., Carlsson E., Poulsen P., Vaag A., Stephan Z., Spector T.D., Wu Y.Z., Plass C., Esteller M. Epigenetic differences arise during the lifetime of monozygotic twins. *Proc Natl Acad Sci USA.* 2005; 102: 10604–10609.
- Hurrelman K., Leppin A., Nordlohne E.: Promoting health in schools: the German example. *Health Promotion Intern.* 1995; 2: 121–129.
- Kruk J.: Good scientific practice and ethical principles in scientific research and higher education. *Central European Journal of Sport Sciences and Medicine.* 2013; 1: 25–29.
- Mackenbach J.P., Meerding W., Kunst A.E. Economic Inequalities in health in Europa Union. *Komisja Europejska.* Luksenburg 2007.
- Makara-Studzińska M., Urbańska A. Alcohol Consumption Patterns Among Young People from Rural Areas of Lublin Province. *Ann Agric Environ Med.* 2007; 14: 45–50.
- Rasmussen M., Holstein B.E., Due P. Tracking of overweight from mid-adolescence into adulthood: consistent patterns across socio-economic groups. *Eur J Public Health.* 2012; 22: 885–887.

- Panasiuk L., Mierzecki A., Wdowiak L., Paprzycki P., Lukas W., Godycki-Cwirko M. Prevalence of Cigarette Smoking Among Adult Population in Eastern Poland. *Ann Agric Environ Med.* 2010; 17: 133–138.
- Saaranen T., Tossavainen K., Turunrn H., Verito A. Occupational wellbeing in school community – staff and occupational health nurses 'evaluation. *Teaching and Teacher Education.* 2006; 22: 740–752.
- Sindall C.: Health promotion and the family – resource revives. *Health Promotion Internat. PZWL.* Warszawa 2000: 68–72.
- Wdowiak A., Wiktor H., Wdowiak L. Maternal passive smoking during pregnancy and neonatal health. *Ann Agric Environ Med.* 2009; 16: 309–312.
- WHO. Report on the Consultation: Development of a WHO global strategy on diet, physical activity and health: European region al consultation, Copenhagen 2003.
- WHO. The European health report 2005. Public health action for healthier children and populations. WHO. 2005.
- Word D.S., Saunders R.P., Pate R.R. Physical activity intervention in children and adolescents. *Human Kinetics.* Champaign 2007.
- Wojnarowska B., Mazur J. Używanie substancji psychoaktywnych i inne zachowania ryzykowne i młodzieży w wieku 11–17 lat w Polsce w 2002 roku. *Alkohol Narkom.* 2003; 16: 155–163.
- Wojnarowska B., Mazur J. Zachowania zdrowotne młodzieży szkolnej: wyniki badań HBSC 2002. *Zdr Publ.* 2004; 114: 159–167.
- Wojnarowska B., Mazur J., Kołolo H., Małkowska A. Zdrowie, zachowania zdrowotne i środowisko społeczne młodzieży w krajach Unii Europejskiej. Katedra Biomedycznych Postaw Rozwoju i Wychowania Wydział Pedagogiczny. Uniwersytet Warszawski, Warszawa 2005.
- Zatoński W. Historia badań nad zdrowotnymi następstwami palenia tytoniu. In: *Zdrowotne następstwa palenia tytoniu w Polsce.* Eds. W. Zatoński, K. Przewoźniak. Ariel. Warszawa 1992: 25–28.

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