

Physiotherapy students promoting health and well-being of school-aged children and adolescents in North Karelia, Finland

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Abstract

Background: Physical activity is important for health and well-being for all ages. The recommendation for children and adolescents is at least 60 minutes moderate- to vigorous- intensity physical activity daily and two thirds of Finnish children achieve these recommendations. Schools have an important role in children's physical activity and physiotherapists as experts in motor development, movement and mobility could contribute largely in this respect to children's health and wellbeing in school healthcare system. This article describes, how school physiotherapy was developed and organized in North Karelia in cooperation with Karelia University of Applied Sciences (Karelia), schools in the Joensuu region and the Siun sote- Joint municipal authority for North Karelia social and health services. **Aim:** The aim of the pilot project was to promote the health, well-being, and functional capacity of children and adolescent. The purpose of the school physiotherapy pilot was to build a school physiotherapy model for schools in the North Karelia region. **Discussion:** School physiotherapy pilot was perceived necessary for improving pupils participation on health promoting physical activity. Because of the positive experiences of the pilot project, it is recommended that physiotherapy should be included in the school health services to promote the health and well-being of school aged children and adolescents.

Keywords: health promotion, pilot, practice placement, students

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Introduction

Physical activity is important for the health and well-being of children and adolescents, and is associated with improved physical outcomes, for example, cardiorespiratory fitness, muscle mass and body composition. Physical activity is also linked with improved mental and cognitive health outcomes, such as brain health and cognition (U.S. Department of Health and Human Services, 2018). Physical activity has also been shown to affect social and academic skills (WHO, 2018). The recommendation for children and adolescents is at least 60 minutes of moderate- to vigorous-intensity daily physical activity (Bull et al., 2020). Studies have found that only a small proportion of children and adolescents achieve these goals (Hallal et al., 2012; Katzmarzyk et al., 2017). In Finland, two thirds of children achieved the recommended level of daily physical activity in 2018 (Kokko & Martin, 2019). In Finland, at least two hours of compulsory physical education per week is timetabled for children and adolescents (aged 7-16 years) throughout the years of basic education (EU & WHO, n.d.). The aim of physical education is to influence the well-being of children and adolescents by supporting their physical, social and mental functioning

(Opetushallitus Utbildningsstyrelsen, 2022). Physical education lessons are conducted by class teachers in primary schools (age 7-12) and physical education teachers in secondary schools (age 13-16) (Finlex, 1998).

Schools have an important role in pupils' physical activity and are a great influence on their lifelong exercise and physical activity habits because they spend approximately 1/3 of their day in school (SHAPE America, 2013; WHO, 2018; Vazou, et al., 2020). According to World Physiotherapy (2019) one of a physiotherapist's roles is to guide and facilitate people of all ages to develop, maintain and restore their optimum movement and functional ability and improve their quality of life. Physiotherapists are experts in motor development and skills acquisition, movement and mobility, which are particularly important for school aged children and adolescents during their development. Physiotherapists have knowledge and skills to promote and implement physical activities for people of different ages and abilities. Currently, physiotherapists' knowledge and expertise are underused in school healthcare systems (Lindqvist, 2017; Nordic Physiotherapist Associations, 2017.)

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In Finland, the school healthcare system is part of school welfare services with multi-professional healthcare staff, and it is provided free of charge. The aim is to promote pupils' health and support their healthy growth, development and psychosocial well-being. School healthcare is organised by municipalities, and it should be offered during the school day in the school facilities or in the near proximity (Ministry of Social Affairs and Health, 2022). According to Finnish legislation physiotherapists could be part of the school healthcare team, but currently this is not a common practice (Finnish Association of Physiotherapists, 2019). When physiotherapists are part of the school healthcare teams, it is possible to support children and adolescents' social, mental and physical functioning through appropriate physical activity and movement during the school day (Nordic Physiotherapist Associations, 2017; Finnish Association of Physiotherapists, 2019).

The Nordic Physiotherapist Associations (2017) and the Finnish Association of Physiotherapists (2019) recommend that physiotherapy should be included in the school healthcare provision. According to the recommendations, the goal of school physiotherapy is to organise activities that promote health and well-being and prevent and treat musculoskeletal problems in children. It has been shown that one third of adolescents report musculoskeletal (MSK) pain monthly, and the prevalence of MSK pain increases from childhood to adolescence. There is also evidence that persistent MSK pain in children or adolescents may be a risk factor for chronic pain in adulthood (Kamper et al., 2015). Exercise interventions have been found to be promising at least to treating low back pain in children and adolescents (Michaleff et al., 2014).

This article describes a pilot project on how school physiotherapy was developed and organised in North Karelia in cooperation with Karelia University of Applied Sciences (Karelia University of Applied Sciences, 2022), schools in the Joensuu region and the Siun sote – Joint municipal authority for North Karelia social and health services. The pilot project was not a research project, and therefore this research report is descriptive, aiming to give an overview of the implementation of a short school physiotherapy pilot as part of physiotherapy students' professional practice placement.

School physiotherapy pilot

A school physiotherapy pilot was launched in North Karelia in the spring of 2020 and completed in the autumn of 2021. The aim of the pilot was to promote the health and well-being, motor skills and functional capacity of children and adolescents. The purpose of the school physiotherapy pilot was to build a school physiotherapy model for schools in the North Karelia region. The pilot was designed and implemented in cooperation with Karelia physiotherapy education, the Joensuu region's primary schools and Siun sote – Joint municipal authority for North Karelia social and health services. Siun sote provides social and

health care services in 13 municipalities and the population of the social and health care district is about 166 400 (Siun sote, 2022).

Karelia is a small University of Applied Sciences in eastern Finland, offering 21 degree programmes, 16 bachelor level programmes, and five at the Masters level, in seven study fields that accommodate about 4000 students. The 3.5 year bachelor degree programme in physiotherapy has two intakes in a year, consisting of 20-30 students in each cohort. The total annual physiotherapy student population is approximately 200 (Karelia University of Applied Sciences, 2022).

During the school physiotherapy pilot, the physiotherapy students from Karelia worked in pairs with school nurses in the selected schools in the Joensuu region for eight weeks at the beginning of the school semester. Class sizes in these schools varied from 20-30 pupils. Physiotherapy students who participated in this pilot were at the end of their studies, and this practice was at least their third placement. The physiotherapy education programme in Karelia includes five practice education periods, totalling 1107 hours from second to final year of their studies (Karelia University of Applied Sciences, 2019). The students collaborated closely with the teachers and other school staff during their practice. A total of 12 school healthcare units were involved in the pilot project. Physiotherapists and school nurses from Siun sote and the teachers of the physiotherapy programme were responsible for supervising the students' practice. Physiotherapists and physiotherapy teachers met each student once a week in the schools, or remotely during the COVID19-pandemic. In addition to this, students and physiotherapy teachers had common weekly reflection sessions, where it was possible to discuss students' experiences and learning. Shared reflection was perceived by students to be important for their learning and progression.

During the pilot project, physiotherapy students' work tasks followed the recommendations for school physiotherapy by The Nordic Physiotherapist Associations (2017) and Finnish Association of Physiotherapists (2019). Students organised physical activity groups, for example, exercise, motor skills training, and relaxation groups. These were voluntary for the pupils and were popular, judged by their keen attendance. Students were also involved in exercise classes where they organised activities aimed at developing motor skills and helped the pupils who had special needs, in collaboration with their teachers.

Students were involved in health evaluations organised by the school nurse, where health-promoting advice was offered to all pupils. Opportunities for further learning and advice in specific topics were offered to those who were interested, for example, topics related to overweight, obese, and physically inactive pupils. Pupils with musculoskeletal problems could also

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approach the physiotherapy students for advice and treatment, guided by the physiotherapists. Students and school nurses also performed spinal assessments for scoliosis using Adam's forward bending test. Physiotherapy students, with the support of their teachers, gave guidance and advice for exercises based on their previous learning.

During the pilot project, students also conducted ergonomic evaluation and advice in classrooms and planned, together with the pupils, how the school-environment could facilitate exercise and movement during the school day.

Physiotherapy teachers (SP, MI, HM) and two physiotherapy students who were working towards their final year project, collected feedback on the pilot project activities from pupils, school teachers, school nurses, and physiotherapy students. Feedback was collected during the pilot project in discussions, through reflections and at the end of the pilot via an online survey with open-ended questions. The questions focused on the process of the pilot project for the purpose of further development and therefore are not analysed and presented in this article. The need for continuation of the activity and the importance of physiotherapists' involvement in the school health care provision came up strongly in the answers of all participant groups. School nurses appreciated the early physiotherapy intervention in cases of problems related to inactivity, motor development, musculoskeletal pain, and obesity. The physiotherapy students' final year project concluded that pupils' experiences in the project were positive. They found it important that physiotherapy services were offered at the school during school hours, and they received help for their musculoskeletal pain (Ahponen & Leskinen, 2021).

In the future, school physiotherapy will be included as one of the practice education periods for all physiotherapy students at Karelia. The practice in the schools will last 12 weeks in both school semesters, and students will be in the schools two days a week during the practice. Practice also includes four hours of reflection weekly, and during the rest of the week students will have other studies of the curriculum. The practice will be undertaken in pairs, with two students completing the practice at the same school, facilitating peer learning and reflection during the week.

Discussion

This school physiotherapy pilot was perceived as being necessary for improving health-promoting physical activity for school-aged children and adolescents. Because of the positive experiences of the pilot project, school physiotherapy should be continued and developed for promoting the health and well-being of school aged children and adolescents. In the future, physiotherapists who are working with children and adolescents, could be part of the school health care system and work in the school during the school day.

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