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TITLE: Physical activity policies and practices of childcare centers in Australia.

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ABSTRACT

Aim: The aim of this study was to describe the physical activity related policies and practices of childcare services; and to determine if service size, socioeconomic or remoteness characteristics predict such policies and practices. Methods: Authorized Supervisors of 216 licensed preschools and long day care centers participated in a brief telephone survey. Results: Few services had a written physical activity policy, programmed time each day for fundamental movement skill development, or had staff trained in physical activity. Twenty eight percent of preschools and 30% of long day care centers provided daily opportunities for children 3 to 5 years to participate in sedentary screen activities. Rural preschools and long day care centers were more likely to program time for fundamental movement skills development, as were preschools from higher socioeconomic areas. Conclusions: There is substantial scope for childcare services to modify their policies and practices to be more supportive of child physical activity.

Keywords: Physical activity, Child Day Care Centers, Preschool, Public Policy, and Motor activity.
INTRODUCTION

Encouraging children in early childhood (2 to 5 years) to be physically active may promote bone and motor skill development, physical fitness and self esteem\(^1\) and reduce the risk of excessive weight gain\(^2\). Despite the benefits of physical activity for young children, research suggests that preschool aged children are not sufficiently active. While Australian guidelines for physical activity among children in early childhood have not been published, research has found that many Australian preschool aged children fail to meet U.S guidelines which recommend that children participate in several hours of structured and unstructured physical activity each day, and spend no more than 2 hours each day using electronic media for entertainment\(^3\).

Childcare services such as preschools and day care centers have been identified as a key setting to promote physical activity in early childhood as they provide access to large numbers of children for prolonged periods\(^4\). Furthermore, research suggests that the adoption of a number particular policies and practices of services may encourage child physical activity whilst in care. For example, providing children with opportunities for active play\(^5\); spacious outdoor environments\(^6\); portable and fixed playground equipment\(^5\); and having teachers educated in physical activity\(^5\) have been positively associated with child physical activity. Despite their importance, research describing at a population level such characteristics of childcare services is sparse\(^4\).

The aim of this study was to describe the physical activity related policies and practices of childcare services; and to determine if childcare service size, socioeconomic or remoteness characteristics predict the presence of such policies and practices.

METHOD

Sample
The study was conducted in the Hunter New England region of New South Wales (NSW), Australia. The region has a population of 837,000, and encompasses regional cities, rural and remote towns. All authorized supervisors of licensed government, and non government preschools and long day care centers in the region were invited to participate in the study. In NSW, preschools typically operate from six to eight hours per day and offer morning, afternoon or full day out of home care for children aged from three to less than six years. Long-day cares typically provide center based child care for 10 or more hours per day and usually take children from six weeks old to under six years. Authorized supervisors of preschools or long day care services for children with intellectual or physical disabilities were excluded.

Procedures
In NSW, the State Government Department of Community Services licenses preschools and long-day care centers under the Children’s Services Regulation 2004. Information provided by the Department of Community Services was used to identify and mail authorized supervisors of all preschools and long day care centers in the region a research information letter. Approximately 2 weeks following receipt of the letter a team of trained interviewers telephoned services, assessed eligibility for participation and invited eligible authorised supervisors to participate in the study. Consenting supervisors completed a 25 minute scripted telephone survey using computer assisted telephone interviewing (CATI) software.

Measures

Service characteristics:
Authorized supervisors were asked to report the operational hours of their service and the age and number of children attending each day. Service postcodes were obtained from the Department of Community Services records.
Physical activity policies and practices.

Authorized supervisors were asked to indicate if their service had a written physical activity policy, if any staff had received physical activity training in the past 12 months, the time children are allowed outdoors to play, and whether children have access to indoor and outdoor spaces for active play, fixed climbing equipment, play equipment such as balls and skipping ropes, light movable equipment which can be arranged by children such as large building bocks or cones, or heavier movable equipment which must be arranged by staff such as walking planks or beams. Programmed time for the fundamental skills development (FMS), child access to sedentary screen activities (SSA) such as time during the day when children can watch TV or play computer games which do not encourage the child to be active (such as dance videos), and the proportion of children participating in such activities was also assessed.

Analyses

Data was analyzed in SAS version 8.2 statistical software. Descriptive statistics were used to describe the operating characteristics, and physical activity policies and practices of services. To determine the proportion of time in care children are allowed to play outdoors, the reported time services were open was divided by the reported time children are allowed outdoors and multiplied by 100. The Australian Standard Geographical Classification was used to classify service postcodes as urban (regional cities and inner regional classifications), or rural areas. Postcodes ranked in the top 50% of NSW according to the Socioeconomic Indices for Areas were classified as 'higher socioeconomic services'. The number of children attending services each day was used to rank and classify services as large (top 50%) or small (bottom 50%). A logistic multiple regression using backwards elimination was performed to determine if service locality, socioeconomic area and size significantly predict physical activity polices and practices.
A logistic multiple regression using backwards elimination was performed to determine significant predictors of services physical activity polices and practices. Variables for service locality (rural / urban) and socioeconomic area (higher / lower) and size (large / small) were first analysed using Pearson chi-squares for associations with service policy and practices. A level of 0.25 was used for entry into the model and the removal level was set at 0.10. The Hosmer and Lemeshow goodness of fit test was used to evaluate the fit of the resulting model, with the significance level set at 0.05.

RESULTS

Sample

All 132 preschools and 161 long day care centers were invited to participate in the study. Of these, one service could not be contacted and 10 were ineligible. The authorized supervisors of 261 services (84%) completed the survey (112 preschools and 149 long day care centers).

Operational Characteristics

Authorized supervisors of long day care centers reported an average of 39 children attending their service each day, all were open 5 days per week and 71% were open for between 10 and 12 hours per day. Authorized supervisors of preschools reported an average of 27 children attending their service each day, 76% were open 5 days per week and 74% were open for between 6 and 8 hours per day.

INSERT TABLE 1

Physical activity policies and practices
As seen in Table 1, for both preschools and long day care centers, outdoor play equipment was accessible to children for around one third of the time in which the services were open (28-39%). A minority of preschools and long day care centers allowed children 2 to 3 years (7-8%) and 3 to 5 years (28-30%) access to TV programs, Videos, DVDs or computer games each day that did not encourage physical activity or reported having staff who had recently received any physical activity training (49-50%).

INSERT TABLE 2

For preschools, authorized supervisors in rural and higher socioeconomic areas were more likely to report programming time for fundamental movement skills development daily for children 3 to 5 years of age (Table 2). For long day care centers, authorized supervisors in rural areas were more likely to report having daily programmed time for the development of fundamental movement skills for children 2 to 3 years of age.

DISCUSSION

The findings of the study indicate that there is scope for both preschools and long day care centers to better support child physical activity through changes to their policies and practices. No more than 50% of services had a written physical activity policy, programmed time each day for the development of fundamental movement skills for children 2 to 3 years, or had staff in the service who had recently received physical activity training. Such findings support previous research suggesting that the physical activity policies and practices of childcare services is limited\(^{10}\), and that childcare service staff lack physical activity training and resources\(^{5,10,11}\).
Surprisingly, few significant predictors of service policies and practices were identified. Preschools and long day care centers from rural areas, however, were found to be more likely to program time for fundamental movement skills development, as were preschools from higher socioeconomic areas. The findings may reflect the existence of spacious environments more conducive to fundamental movement skills activities in rural services and a greater capacity of higher socioeconomic services to purchase activity resources. Future studies investigating the differences between such services are required to verify these hypotheses. Nonetheless, the findings of the study suggest that interventions supporting fundamental movement skills development among children should priorities services from urban and lower socioeconomic areas.

The primary limitation of the study was its reliance on self reported information. Authorized supervisors may have felt pressure to report the existence of physical activity promoting policies or practices. If this was the case, the prevalence of policies and practices of services reported in this study is likely to be an overestimate. The study was also conducted in a non-metropolitan region of NSW. While the demographic profile of Hunter New England residents approximates that of the NSW population, the policies and practices of services from major metropolitan areas may differ. Furthermore, some authorized supervisors, particularly those of larger services, or supervisors who were newly employed at the service may not be particularly familiar with the specific service practices. Similarly, for a small number of services (<5%), authorized supervisors nominated other members of staff, who may not have been as familiar with service practices, to complete the survey on their behalf. Research validating the practices reported by staff representing childcare services would provide greater certainty regarding the survey findings.
To our knowledge, this is the first published population based study of the physical activity policies and practices of childcare services. The study provides important information to facilitate the development of interventions to improve opportunities for child physical activity whilst in childcare. The successful implementation of initiatives to promote physical activity in childcare services will need to consider service level barriers to adoption such as a lack of resources and staff skills, but also challenge existing practices in childcare services (such as safety policies preventing children from running) which hinder children’s physical activity.14
KEY POINTS

1. A substantial proportion of preschools and long day care centers do not have a number policies and practices known to encourage children to be physically active.

2. There appear few differences in the physical activity policies and practices of preschools and long day care services by geographic or socioeconomic locality.

3. Interventions to support childcare services to up skill staff and implement programs to improve children's' fundamental movement skills, to reduce opportunities for sedentary screen time and to develop policies which create environments supportive of child physical activity are required.

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CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.
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