



Research Article / Araştırma

Engelli bireylerin ebeveynlerinde fiziksel aktivite düzeyini etkileyen faktörlerin incelenmesi

Examination of factors affecting the level of physical activity in parents of persons with disabilities

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ABSTRACT

Aim: The aim of this study is to examine the factors affecting the level of physical activity in parents who care for people with disabilities.

Materials and Methods: Eighty-five parents with a mean age of 42.32±9.48 years participated in the study. Information such as the income level of the parents and whether they received caregiver support for the care of the disabled individual were questioned. In addition, the diagnosis and mobility level of the disabled individual were recorded. The International Physical Activity Questionnaire was used to determine physical activity level, and the WHO-5 Well-Being Index was used to evaluate well-being. Physical activity barriers were questioned with three items created by the authors. Logistic regression analysis was performed to determine the factors affecting physical inactivity.

Results: Inability to walk and lack of caregiver support were determined as physical inactivity risk factors (odds ratio 3.591; 11.969; p<0.05, respectively). 55.3% of the participants stated the need for continuous care of the disabled person, 54.1% stated the health problems of the disabled person as a physical activity barrier. It was observed that individuals with higher physical activity levels had better well-being (p=0.014).

Conclusions: It was determined that the mobility level of the disabled person and the support of the caregiver are the factors affecting the physical activity level of the parents, and the health status and care needs of the disabled person are perceived by the parents as a physical activity barrier.

ÖZ

Amaç: Bu çalışmanın amacı engelli bireylere bakım veren ebeveynlerde fiziksel aktivite düzeyini etkileyen faktörlerin incelenmesidir.

Gereç-Yöntem: Çalışmaya yaş ortalaması 42,32±9,48 olan seksen beş ebeveyn katıldı. Ebeveynlerin gelir düzeyi, engelli bireyin bakımıyla ilgili bakıcı desteği alıp almadığı gibi bilgileri sorgulandı. Ayrıca engelli bireyin tanısı ve mobilite düzeyi kaydedildi. Fiziksel aktivite düzeyinin belirlenmesi için Uluslararası Fiziksel Aktivite Anketi, iyilik durumunu değerlendirmek için WHO-5 İyilik Durumu İndeksi kullanıldı. Yazarlar tarafından oluşturulan üç madde ile fiziksel aktivite bariyerleri sorgulandı. Fiziksel inaktiviteyi etkileyen faktörleri belirlemek için lojistik regresyon analizi yapıldı.

Bulgular: Engelli bireyin yürüyememesi ve bakıcı desteği olmaması fiziksel inaktivite risk faktörleri olarak belirlendi (sırasıyla Odds oranı 3,591; 11,969; p<0,05). Katılımcıların %55,3'ü engelli bireyin sürekli bakıma ihtiyaç duymasını, %54,1'i engelli bireyin sağlık sorunlarını fiziksel aktivite bariyeri olarak belirtti. Fiziksel aktivite düzeyi daha fazla olan bireylerin iyilik durumlarının daha iyi olduğu görüldü (p=0,014).

Sonuç: Engelli bireyin mobilite düzeyi ve bakıcı desteğinin ebeveynlerin fiziksel aktivite düzeyini etkileyen faktörler olduğu, engelli bireyin sağlık durumu ve bakım ihtiyacının ebeveynler tarafından fiziksel aktivite bariyeri olarak algılandığı tespit edildi.

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Anahtar Kelimeler: Ebeveynler, egzersiz, iyi oluş.

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INTRODUCTION

Disability is defined as the loss of physical, mental, spiritual, sensory and social abilities to varying degrees due to any congenital or acquired reason (1). Giving care to individuals with disabilities is a very difficult and troublesome process for both the provider and the recipient of care (2). The dependence of individuals with disabilities in their daily life activities creates a physical and psychological burden on parents (3). These situations negatively affect the quality of life of caregivers (4). Providing care to individuals with disabilities causes difficulties for parents such as financial problems, coping with the behavioral problems of individuals with disabilities, and time pressure. These conditions lead to deterioration of well-being and health (5-7).

The impact on the health of caregivers of individuals with disabilities is associated with reduced preventive health behaviors and physical activity options (8). Many physical and psychological benefits of physical activity are known. It was stated that caregivers of individuals with disability were mostly physically inactive (9). However, there are studies showing that physical activity reduces the care burden in caregivers of people with disability (10). Engaging in physical activity has been associated with increases in positive mood, reduces the risk of chronic disease, and increases resilience, which may improve caregivers' overall health and ability to perform caregiving tasks (10).

Physical activity behaviors in individuals with disabilities are frequently investigated (11, 12). The level of physical activity in

parents of individuals with disabilities has been discussed less, and these studies have focused more on its effect on the child's physical activity behavior (13). Parents of individuals with disabilities are at greater risk of adverse health conditions, both because of the stress and psychological effects they experience and because they have more physical strain to care for the child (14, 15). It has been reported that the frequency of chronic conditions such as heart diseases, obesity, sleep disorders and pain is higher in the families of individuals with disabilities (16, 17). Physical activity is protective against many chronic diseases (18). The responsibilities and time constraints of parents who care for individuals with disabilities regarding the care of their children cause physical inactivity (19). Although the physical activity level of parents who care for individuals with disabilities has been examined, there is no clear information about physical activity barriers and physical inactivity risk factors (20). Identifying physical inactivity risk factors and barriers can provide guidance in terms of developing physical activity interventions. The aim of this study is to examine the factors affecting the physical activity level of parents who care for individuals with disabilities

MATERIALS AND METHODS

Study Design and Participants

This cross-sectional study was conducted in special education and rehabilitation centers in Ankara. Ethics committee permission for the research was received from Ankara Yıldırım Beyazıt University Ethics Committee (Meeting date and decision number: 15.03.2021-70).

Parents who met the inclusion criteria were invited to the study after being informed about the study. Consent was obtained from volunteer individuals who agreed. Criteria for inclusion in the study were being the parent of a disabled child who was at least two years old and volunteering to participate in the study. Illiterate parents were not included in the study.

Outcome Measurements

After questioning the parents' information such as age, marital status, education level, income level, whether they received caregiver support to help with the care of the disabled individual, the diagnosis, mobility level and special needs type of the disabled individual were questioned. The type of special needs was determined according to the Special Needs Report for Children (Çocuklar İçin Özel Gereksinim Raporu, ÇÖZGER) created within the scope of the regulation on special needs assessment for children that came into force on February 20, 2019. According to the ÇÖZGER report, individuals with special needs regarding the area of movement development have special physical needs; Individuals with special needs in the field of cognitive development formed the cognitive special needs group.

The physical activity level of parents caring for individuals with disabilities was evaluated using the Turkish version of the short form of the International Physical Activity Questionnaire (IPAQ). This scale evaluates the level of physical activity in the last 7 days. In this survey, four activity intensities are recorded: vigorous intensity, moderate intensity, walking and sitting.

Total daily physical activity is obtained by calculating the metabolic equivalents (METs) of activities performed throughout the day. Vigorous intensity physical activity as 8 METs; moderate-intensity physical activity 4 METs; and walking is calculated as 3.3 METs (21). Parents with a total physical activity score of less than 600 MET-min/week were considered physically inactive (22).

Parents' physical activity barriers were questioned with three items created by the authors and answered as "Yes / No". These items were created by the authors by examining the relevant studies in the literature (7, 13, 16, 17, 20). These items were about the parent's own health condition, the disabled individual's health status, and whether the disabled individual's need for constant care prevents them from doing physical activity.

The 5-item WHO-5 Well-being Index developed by the World Health Organization was used to measure parents' well-being. This scale is a short and effective method to detect mental well-being. It consists of 5 items and is scored between 0-5 (0: At no time, 5: All of the time). A higher score means greater well-being. The validity and reliability of the Turkish version was demonstrated by Eser et al. in 2019 (23).

Statistical analysis

Statistical analysis SPSS version 25.0 software package (IBM Corp. Armonk, NY, USA) was used to analyze the data. Continuous variables are presented as mean \pm standard deviation or median (interquartile range). Categorical variables were presented as frequencies and proportions. The Mann-

Whitney U test was used to compare independent groups. Chi-square test was used in univariate analyzes to evaluate the physical inactivity risk of parents caring for individuals with disabilities. In multivariate analysis, independent predictors of the risk of physical inactivity using possible factors identified in previous analyzes were examined using logistic regression analysis. The Hosmer-Lemeshow test was used for model fit. Statistical significance level was accepted as $p < 0.05$. GPower 3.1.9.7 program (Heinrich-Heine-Universität Düsseldorf, Germany) was used to calculate the power of the study. According to the post-hoc power analysis performed based on the logistic regression analysis results, the power of the study with 85 people was calculated to be 0.99.

RESULTS

Eighty-five parents with an average age of 42.32 ± 9.48 participated in the study. The average age of the individuals with disabilities they cared for was 14.39 ± 9.62 . 84.7% of the participants were mothers of people with disability, and 84.15% were unemployed. 50.6% of the individuals receiving care had a diagnosis of cerebral palsy. Information about the parents participating in the study and the individuals they care for is shown in Table 1.

When the factors affecting the physical inactivity risk of parents caring for individuals with disabilities were examined, the disabled individual's inability to walk and lack of caregiver support were identified as factors that increase the risk of physical inactivity

Table 1. Descriptive information about parents who care for individuals with disabilities and individuals with disabilities

Information about parents		n	%
Educational level	<11 years	23	28.04
	>11 years	62	71.96
Employment status	Employed	13	15.85
	Unemployed	72	84.15
Monthly income	<6000 TL	47	55.29
	>6000TL	38	44.71
Relationship with a disabled child	Mother	72	84.7
	Father	13	15.3
Regular carer support	Yes	12	14.1
	No	73	85.9
Information about individuals with disabilities		n	%
Diagnosis	Cerebral palsy	43	50.6
	Down syndrome	12	14.1
	Autism	7	8.2
	Spina bifida	4	4.7
	Duchenne muscular dystrophy	3	3.5
	Other	16	18.8
Mobility level	Unable to walk	27	31.8
	Able to walk	58	68.2
Special requirement type	Physical	40	47.1
	Cognitive	19	22.4
	Physical and cognitive	26	30.6

(Table 2). The Hosmer-Lemeshow test showed that the fit of the model was good ($p=0.383$).

who care for individuals with disabilities, it was found that the mobility level of the disabled individual and the presence of caregiver

Table 2. Logistic regression analysis of physical inactivity risk factors in parents caring for individuals with disabilities

	Univariate analysis		P	Multivariate analysis	
	IPAQ < 600 MET-min/week	IPAQ > 600 MET-min/week		Odds ratio (95% confidence interval)	P
Mobility level					
Able to walk	20	38	0.037	3.591 (1.247-10.345)	0.018
Unable to walk	16	11			
Regular carer support					
Yes	1	11	0.011	11.969 (1.297-110.434)	0.029
No	35	38			
Employment Status					
Employed	2	11	0.037	3.467 (0.634-18.962)	0.152
Unemployed	34	38			

IPAQ: International Physical Activity Questionnaire

According to physical activity level, the WHO-5 well-being index score of individuals with IPAQ < 600 MET-min/week was found to be 12 (6.75) points, and the score of individuals with IPAQ > 600 MET-min/week was found to be 16 (8.5) points. Individuals with higher levels of physical activity were found to have better well-being ($p=0.014$).

Twenty-seven parents (31.8%) stated that their health problems prevented them from doing physical activity. Forty-six parents (54.1%) stated that their child's health problems prevented them from doing physical activity. Forty-seven parents (55.3%) stated that their child's need for constant care prevents them from doing physical activity.

DISCUSSION

As a result of the study examining the factors affecting the physical activity level of parents

support affected the risk of physical inactivity. It was observed that the well-being of parents with low physical activity levels was worse. More than 50% of the participants stated that the disabled child's health condition and need for constant care prevented them from doing physical activity.

According to family system theory, considering that children's physical activity behaviors are shaped by observing their parents and that parental behaviors are among the physical activity barriers of the child, increasing the physical activity level of the parent may also be beneficial in increasing the physical activity level of the child (24, 25). One reason for the poor physical and psychological health of caregivers of individuals with disabilities may be that they do not have enough time and energy for healthy lifestyle behaviors (26). Physical activity is one of the most

important healthy lifestyle behaviors. As a matter of fact, it has been observed that educational intervention aimed at developing healthy lifestyle behaviors caused an increase in the level of physical activity and well-being in mothers of disabled children, and an increase in the children's quality of life was also detected (27). In previous studies, the physical activity level of parents who care for individuals with disabilities was found to be low (28). Individuals with disabilities needing care causes parents to have less time and energy for physical activity, which creates a barrier to physical activity (16). Barriers faced by families of individuals with disabilities regarding physical activity include negative social attitudes towards disability, inadequate facilities, and family concerns about physical activity (24). In the current study, most of the parents stated that the child's disability and need for care was an important barrier to physical activity. The fact that the disabled individual can walk and have caregiver support reduces the physical inactivity risks of parents, and the reduced need for parental care shows that parents can spare more time for physical activity. Therefore, policies related to the provision of care support for people with disabilities should be taken into account. Considering the benefits of physical activity on physical and mental health, interventions to increase parents' physical activity levels may be useful to improve their parents' health and well-being (29). Since interventions targeting the health process are quite rare, interventions targeting psychological health, such as cognitive-behavioral techniques, usually attract attention (30).

It has been stated that high physical

activity levels in adults are associated with psychological and social well-being (31, 32). Similarly, in our study, the well-being of those with higher physical activity levels was found to be better. Caring for individuals with disabilities is negatively affected by their well-being as they are exposed to many stressful situations (33). Directing parents who care for individuals with disabilities to engage in physical activity and offering physical activity options that will not disrupt their daily routines may be beneficial to increase well-being.

In Korea, it was reported that parents of individuals with intellectual disabilities spent most of their time caring for their children and managing their challenging behaviours during the COVID-19 pandemic. Increased care burden, which is physically and mentally demanding, has been reported to lead to deterioration in their health status, leading to the need for care-related support (34). In France, it was reported that during the pandemic period, parents provided the therapy needed by children with physical disabilities, that the main concern of parents was rehabilitation and that they complained about the lack of support. (35). In a study conducted in the USA, it was reported that parents of children with Down syndrome were more likely to be physically inactive than parents of children with other disabilities. Therefore, it was emphasised that this group needs interventions that encourage physical activity (28). Similar to these studies conducted in different geographical regions and in the parents of individuals with different disability groups, the inability of the disabled individual to walk and the lack of carer support were identified as physical inactivity risk in

our study. This result suggests that parents caring for individuals with disabilities in our country need support in care and physical activity interventions.

Limitations of the study

This study provides important information about the factors affecting the physical activity level of parents of disabled children. However, the fact that the study was conducted only in Ankara can be considered a limitation. In future studies, it may be useful to evaluate the parents of individuals with disabilities living in different regions and rural areas of our country. In addition, assessing physical activity levels only with a self-reported questionnaire is a limitation. It may be useful to assess physical activity levels with more objective methods such as a pedometer. Additionally, future studies can examine the effectiveness of physical activity interventions for parents. When planning physical activity interventions, considering physical activity barriers is important for the feasibility of exercises. In the results of the current study, the child's health problems and need for care were reported as physical activity barriers for most of the parents. Considering these barriers, it may be beneficial to create exercise groups for parents during the hours when their children are at school or a special education center.

Generalizability

Since the study was conducted only in Ankara, the results cannot be generalized to the entire population. Because the participants did not include parents living in rural areas and in different geographical regions, the results of the study may differ considering the living

conditions in these regions.

CONCLUSIONS

The results of this study determined that the mobility status of individuals with disabilities and caregiver support are factors affecting the physical activity level of parents. It has been observed that the disabled individual's health status and need for care are obstacles to parents' physical activity. It was also determined that the well-being of parents with low physical activity levels was lower. Since improving the well-being of parents will positively affect the care process and health of the disabled child, evaluations and interventions regarding the physical activity level that affects the well-being of caregivers of disabled children should also be taken into consideration. Physical activity interventions for parents implemented through community centers or rehabilitation programs may be beneficial in improving their well-being.

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