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RESEARCH ARTICLE

PHYSICAL ACTIVITY IN EMERGENCY DEPARTMENT WORKERS: AN EXAMPLE OF INTENSIVE AND STRESSFUL WORK ENVIRONMENT

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ABSTRACT

Purpose: This study aimed to examine the use of graduated compression stockings in patients after surgery.
Methods: Employing a descriptive research design, the study was conducted on a sample of 173 postoperative patients using compression stockings in the surgical departments of a university hospital. The data, obtained through the sociodemographic and clinical characteristics form, and the evaluation form assessing the use and knowledge level of graduated compression stockings, were collected via face-to-face interviews and observation.
Results: Among all the patients, 80.9% did not elevate their feet while in bed before putting on stockings, and 72.3% did not wear stockings before getting out of bed. The researchers observed that 50.9% of the patients correctly positioned the stockings on the heel, while 79.2% had folds in the stockings they wore. Additionally, during the removal of stockings for observations, 59.5% of the patients exhibited redness in the corresponding area. The patients who received information from healthcare providers had used the stocking accurately, and there was less tissue damage ($p<0.05$).
Conclusion: Patients experience some problems during the use of stockings, such as incorrect usage and tissue damage; however, these problems are less observed in educated patients. Consequently, it is advisable to implement comprehensive and effective patient education programs on compression stocking usage to address these issues and improve patient outcomes.

Keywords: Graduated compression stockings, Nursing, Postoperative, Venous thromboembolism

INTRODUCTION

The importance of engaging in sports to enhance the performance of emergency department workers in a healthy manner is increasingly being recognized. Sports are a crucial factor for coping with stress and maintaining physical health. They enhance mental health, fitness, skeletal system strength, social connections, and self-confidence, improving overall quality of life (1).

The emergency department is a section or unit of a healthcare institution providing emergency medical services. It aims to save lives, improve health conditions, or provide appropriate referrals for situations requiring emergency medical intervention

by ensuring rapid andı effective responses to emergencies. The emergency department operates 24/7 and is typically staffed with healthcare personnel from various specialties (2). Emergency department workers include emergency medicine specialists, emergency medicine assistants, nurses, medical technicians (paramedics), emergency medical technicians (EMTs), caregivers, cleaning staff, and other personnel (3). Additionally, emergency department staff actively use their musculoskeletal system when examining or intervening with patients. Engaging in sports helps improve muscle strength, flexibility, bone health, and posture. Furthermore, while isokinetic muscle strength and healthy joints facilitate sports participation, they also positively impact psychological and mental well-being, thereby enhancing overall quality of life (4).

Healthcare workers, especially in emergency departments, face high stress and intense workload (5).

Additionally, emergency department workers actively use their musculoskeletal system while examining or intervening with patients. Engaging in sports helps maintain muscle strength, flexibility, bone health, posture, and mental health. Emergency department workers are exposed to intense work environments, irregular sleep, stress, and irregular eating habits, all of which negatively impact the musculoskeletal system. This condition can cause neck, back, and waist pain, reducing life quality (6,7).

Healthcare workers, especially those in high-pressure and stressful environments like emergency departments, should prioritize physical health by maintaining a healthy lifestyle that includes regular exercise, healthy eating, and adequate sleeping habits. In stress management, sports can help recognize stress, identify its causes, and learn techniques to cope with it. These techniques may include regular exercise, healthy nutrition, maintaining a proper sleep schedule, creating a social support network, developing time management skills, practicing relaxation techniques, and engaging in stress-reducing activities (8).

The importance of sports in work performance lies in its ability to enhance focus, thereby positively impacting productivity. Regular exercise improves mood and team dynamics, helps cope with fatigue, and supports staying alert. Moreover, sports enhance communication and concentration, contributing to a reduction in workplace accidents. For these reasons, sports effectively improve work performance (9). In addition, the positive changes in physical and physiological parameters due to exercise and its impact on improving quality of life suggest that it can be used as an alternative to traditional training methods (walking, running, and gym activities) for those who do not have time to exercise (10).

In addition, emergency room workers may have to transport patients, perform CPR, and sometimes even run to reach patients for most of their working lives. For this reason, physical activity and fitness are very important for emergency room workers.

This study aims to investigate emergency department workers' attitudes and the influencing factors towards sports.

MATERIALS AND METHODS

Participants

This study is a cross-sectional survey conducted among emergency department workers at Gazi University Faculty of Medicine. The research was conducted on employees in the Gazi University Faculty of Medicine emergency department. Participate in the survey via Google Forms, of which 270 responded with complete answers.

Data Collection Tool

The data collection tool consists of two parts:

Personal Information Form: This section includes questions about participants' socio-demographic characteristics, such as age, gender, marital status, and length of employment, along with questions related to their professional lives. Attitude Towards Sports Scale (ATSS): Developed by Şentürk (2012) and validated for validity and reliability, the scale comprises a total of 25 items and three subscales: Interest in Sports (IS - 12 items), Incorporating Sports into Life (IL - 7 items), Active Sports Participation (ASP - 6 items),

For this study, the Cronbach's Alpha (α) values were calculated as follows: IS: 0.869, IL: 0.857, ASP: 0.793, Overall scale: 0.924

The scale uses a 5-point Likert scale (1- Strongly Disagree, 5- Strongly Agree). Higher scores define a more positive attitude towards sports (1). The survey form was created using the Google Forms platform and distributed to participants online.

Data Collection Process

Surveys were sent to participants via email between (08/07/2024 and 28/07/2024). Participants were informed about the aim of the study, and participation

was voluntary. Adequate time was provided for participants to complete the survey, and the confidentiality of responses was ensured.

Statistical Analysis

Collected data were analyzed using SPSS 25.0 (Statistical Package for the Social Sciences). The skewness coefficient and Kolmogorov-Smirnov test were used to assess the normal distribution of research data. For data to be considered normally distributed, kurtosis and skewness values are expected to fall within the range of -2 to +2. Upon examining normality, it was found that scale scores exhibited a normal distribution. Socio-demographic characteristics of participants were presented as frequencies and percentages, while scale characteristics were calculated as mean, standard deviation, minimum, and maximum values. Cronbach's Alpha coefficient was calculated to assess the validity and reliability of responses to the survey. An independent samples t-test was used to examine differences between age, gender, marital status, and scale score averages. ANOVA was employed to analyze differences in scale score averages based on participants' educational level and job title variables. Post hoc tests, precisely the Least Significant Difference (LSD) test, were conducted to determine which variables showed significant results according to the ANOVA test. Results were considered statistically significant at $p < 0.05$ level.

Ethics Committee Approval

This study was approved by the Ethics Committee of Gazi University (Date: 09/07/2024, No:12). All participants provided informed consent electronically before participation. In this study, we have followed all the Helsinki guidelines at all stages for human studies and met the current ethical standards in Sport and Exercise Science.

RESULTS

The findings of our study, which aims to reveal the attitudes of emergency service workers towards sports and the influencing factors, are given below.

When examining the socio-demographic characteristics of the participants, 69.3% were aged 24 years or younger, 72.6% were female, 53.7% had an associate degree, 41.5% were intern paramedics, and 83.0% were single.

When examining Table 2, the participants had a mean age of 24.29 ± 7.59 years (minimum 18.00, maximum 59.00) and a mean total scale score of 80.19 ± 25.20 (minimum 25.00, maximum 125.00).

When examining Table 3, the gender variable shows significant differences in scale score averages. Male participants had significantly higher mean scores in total scale score (p=0.001), SY subscale score (p=0.043), and ASP subscale score (p=0.002) compared to female participants. Married participants had significantly higher mean scores in total score (p=0.008) and IS subscale score (p=0.030) compared to single participants.

When examining Table 4, education level creates significant differences in the mean total scale score and all subscales except ASP. Post hoc tests revealed that this difference stems from participants with postgraduate education having higher averages compared to those with high school and associate degree education.

Table 1. Participants' socio-demographic characteristics

	n	%
Age		
≤24 years	187	69.3
≥25 years	83	30.7
Gender		
Male	74	27.4
Female	196	72.6
Education Level		
High School	23	8.5
Associate's Degree	145	53.7
Bachelor's Degree	70	25.9
Master's Degree	32	11.8
Occupation		
Intern paramedic	112	41.5
Paramedic	25	9.3
Intern nurse	9	3.3
Nurse	36	13.3
Doctor	40	14.8
Other	48	17.8
Marital Status		
Single	224	83.0
Married	46	17.0

Table 2. Some Characteristics of Age and Scale Scores

	Min	Max	Average	SD
Age (Years)	18.00	59.00	24.29	7.59
Total Scale Score	25.00	125.00	80.19	25.20
Interest in Sports Subscale	13.00	65.00	43.24	13.35
Integration of Sports into Life Subscale	7.00	35.00	22.59	7.69
Active Participation in Sports Subscale	5.00	25.00	14.35	5.80

Table 3. Comparison of Scale Total, Interest in Sports, Incorporating Sports into Life, and Active Sports Participation Scores Based on Participants' Age, Gender, and Marital Status (t-test)

Variables		Total Scale Score			IS			SL			ASP		
		x̄±SD	t	p*	x̄±SD	t	p*	x̄±SD	t	p*	x̄±SD	t	p*
Age	≤24 years	79.05±26.04	-1.115	0.26	42.82±13.50	-0.767	0.43	22.17±7.97	-1.366	0.17	14.05±5.86	-1.270	0.20
	≥25 years	82.75±23.12			44.18±13.02			23.55±6.95			15.02±5.64		
Gender	Male	83.93±29.94	1.502	**0.00***	44.02±16.44	0.591	0.55	23.75±8.55	1.527	0.04	16.14±6.27	3.179	**0.00***
	Female	78.78±23.08			42.94±12.01			22.15±7.31			13.67±5.47		
Marital Status	Single	79.44±25.27	-7.074	**0.00***	42.87±13.34	-5.003	**0.03***	22.38±7.79	-0.980	0.32	14.18±5.78	-1.055	0.29
	Married	83.82±24.78			45.04±13.36			23.60±7.15			15.17±5.89		

**p<0.05, t-test*

DISCUSSION

Regular physical activity provides happiness and pleasure among individuals engaged in sports. It has been observed that it improves our overall health and quality of life (11). The importance of sports in coping with stress is unquestionable in contemporary times. Sports effectively alter individuals' monotonous lifestyles and perceptions. Engaging in sports promotes relaxation and stress relief, encouraging individuals to feel happy and prosperous and enjoy these emotions (12). Lee et al. (2012) Individuals who exercise regularly generally have higher job satisfaction and productivity. Yasukawa et al. (2006) It has been determined that sports are essential in professional duties other than health. (13).

In our sample, the proportion of female participants (72.6%) was higher compared to male participants. Similar trends are observed in other related studies in the literature. Özsarı et al. (2019) reported a higher participation rate among female participants (14), while Janssen et al. (2023) also found more female participants than male participants (15). We attribute the higher proportion of female participants in our study to the specific composition of our sample. Additionally, we interpret the predominance of female participants in our study as reflective of the healthcare sector, where women are more prominently represented. In addition, almost two-thirds of the participants in the study were under the age of 24. This was due to the fact that the Paramedic profession was a new profession in our country. And we think that this is the reason why the majority of the participants are single.

When analyzing attitudes toward physical activity based on gender, it was observed that male participants achieved significantly higher mean scores in the total scale score, SY subscale score, and ASY subscale score compared to female participants. Similar findings were noted by Togo and Öztürk (2020), who also found that male participants had higher average scores across the total scale and all subscales (16). Moreover, Özsarı et al. (2022) reported higher total scale scores among male participants than females (14). Similarly, Gökdağ (2019) Compared to women, men received higher scores in both the scale total scores and subscales (17). In contrast to these studies, Konar and colleagues (2024) reported that women's success in

Table 4. Comparison of Scale and Subscale Scores by Participants' Education Level and Position (ANOVA Test)

	Total Scale Point				IS				SL				ASP			
	x̄±SD	F	p	Difference	x̄±SD	F	p	Difference	x̄±SD	F	p	Difference	x̄±SD	F	p	
Educational Status																
1. High School	72.17±25.35				39.56±13.44				20.30±7.58				12.30±5.97			
2. Associate degree	78.05±25.46				42.01±13.37				21.92±7.82				14.13±5.77			
3. Bachelor's Degree	82.97±26.03				44.47±13.72				23.64±8.05				15.85±6.01			
4. Master's Degree	89.56±18.89	2.944	0.033	4>1.2	48.84±10.71	3.149	0.026	4>1.2	25.01±5.39	2.568	0.045	4>1.2	15.71±5.11	1.810	0.146	
Occupation																
1.Intern Paramedic	77.83±25.75				42.16±13.42				21.80±7.97				13.87±5.83			
2. Paramedic	81.56±25.22				43.28±13.65				22.92±7.71				15.36±6.29			
3. Intern Nurse	78.01±34.23				42.44±17.60				21.55±9.92				14.01±7.14			
4. Nurse	85.38±25.14				45.94±13.11				24.22±7.71				15.22±6.37			
5.Doctor	87.67±21.37				47.32±11.93				24.37±6.33				15.97±4.98			
6. Other	75.25±23.91	2.148	0.048	5>1.3	40.47±13.02	1.627	0.153		21.77±7.52	1.143	0.338		13.01±5.18	1.637	0.150	

*p<0.005 , ANOVA test

improving health-related quality of life and controlling body fat percentage increases their desire to engage in sports and exercise (18).

These outcomes may indicate that females perceive their attitudes towards sports less positively than males. In addition, although the average score for the interest in sports subscale was higher among male participants, it was not significant. In the study conducted by Varol et al. (2017), the average score for the interest in sports subscale was higher among male participants (19). Tomik et al. (2012) found in their study with 2,704 participants in Poland that male participants showed a higher interest in sports compared to female participants (20). The reason for the lack of a difference in the interest in sports subscale with respect to gender in this study might be due to the postponement of social activities like sports due to intense work conditions.

In our study, age did not significantly influence attitudes towards sports ($p > 0.05$). This finding supports the reported results by Togo and Öztürk (2020) and Özsarı et al. (2022) (16), (14). However, Gökdağ (2019) found significant differences in total scale and subscale scores between younger and older participants, with younger participants scoring higher (17). Gökdağ's study predominantly involved younger participants, who typically have more energy and are more physically active (17). This may encourage them to engage in regular physical activity. In this study, although the subscales of interest in sports, living with sports, and active participation in sports had higher averages in the older age group, no significant difference was found. Similarly, Varol et al. (2017) found that the age variable did not create a significant difference in the scale subdimensions (19). Tatar and Kuru's (2009) study, which examined factors affecting sports participation among women aged 20-40 who were either employed or unemployed, found that age was not a significant factor in sports participation among the women surveyed (21).

Research by Rullestad et al. (2021) indicates that sports are a popular social activity among young people, and engaging in sports with friends enhances their positive attitudes towards sports (22). However, in our study, we did not observe a significant difference between the participants according to age; there may be many reasons for this. In our opinion, intensive working conditions, lack of time for sports, and a sample with a similar age group may be the reasons for this situation.

The scale total score and IS subscale mean scores of married participants were significantly higher than those of single participants. This finding is consistent with the results reported by Wood et al. (2019), who found that married individuals are more inclined towards sports than singles (23). However, Togo and Öztürk (2020) did not find significant differences in total scale score and subscale scores between married and single individuals regarding marital status (16). We speculate that the more excellent family and childcare responsibilities among married individuals may limit the time they allocate to sports. Although the average scores for the sub-dimensions of sports lifestyle and active sports participation are higher among married participants, this result is not statistically significant. Sobal and Hanson (2010) found that married individuals participate less in active sports compared to singles, but they expend more energy on overall physical activity (such as household chores and leisure-time sports) (24). According to a study by Taniguchi and colleagues (2012), having a child under the age of 18 affects the relationship between marital status and physical activity. The study found that there was no change in attitudes towards sports between married and single participants, but participants with children under 18 showed a decrease in their attitudes towards sports (25).

In the Janssen et al. (2023) study, when the relationship between education and scale scores was evaluated, nurses scored higher than doctors (15). Highly educated individuals tend to be more aware of health issues and better understand the positive effects of regular exercise on health. This awareness leads them to embrace sports as part of their lifestyle and prioritize its importance (26). In the study by Togo and Öztürk (2020), no significant difference was observed in the subscale scores of SYTO according to education level. (16). However, Gümüşay (2020) determined that the level of education makes a significant difference on the Attitude Scale towards Sports. Mainly, healthcare professionals with a high school diploma showed a higher perception of attitude toward sports (27). Our study observed significant differences in the total scale score and all subscales except ASP based on education level and title variables. Postgraduate education participants scored higher than those with high school and associate degree education. We think individuals with higher education levels attach more importance to sports to improve their general health and quality of life. In our study, the sub-dimension of active sports participation did not show a significant difference according to the level of education variable. However, participants with a university education had higher average scores. Similarly, no significant difference was found between the sub-dimension of active sports participation and the participants' title variable. There may be several reasons why university education creates awareness of sports among emergency service workers. It may be thought that the age of the individuals during the education may have made it easier for them to perceive physical activity. Or it may be due to the fact that postgraduate education directs individuals to research. As individuals conduct research, they may have understood the importance of physical activity.

This study examined the attitudes of emergency service workers towards sports. In this context, this study revealed that the attitudes of emergency service workers towards sports are low. We believe that this study will create awareness among emergency service workers.

Limitations

The study's limitations include its execution solely within a single medical faculty and the restricted generalizability of findings to other healthcare institutions. There may also be differences across cities. Therefore, the results of the study may vary in different cities. This raises uncertainty about how the study's conclusions could be applied to other healthcare settings. Future research should examine the long-term effects of physical activity on work performance and the benefits of various sports. This approach could lead to a more comprehensive understanding of how physical activity impacts healthcare professionals' quality of life and job performance.

CONCLUSION

As a result, this study has identified significant demographic factors influencing the attitudes of emergency department staff toward sports. Younger age groups and higher levels of education mainly support positive attitudes towards sports. To promote physical activity within the healthcare sector, the following recommendations are suggested:

Enhancement of Corporate Support and Healthy Lifestyle Policies: Healthcare institutions should adopt and implement policies that promote healthy living. Work environments that encourage sports

participation should be established. Organization of Education and Awareness Programs: Regular training sessions on the health benefits of sports should be provided to healthcare professionals, alongside awareness programs emphasizing the positive effects of sports on health and job performance. Integration of Sports into Health Programs, Sports activities should be integrated into health programs, with adequate employee support. For instance, healthcare workers should be given time and resources to engage in sports. These recommendations aim to enhance overall health and job performance by increasing physical activity among healthcare professionals. Morover, Sports materials, halls, showers, changing rooms, etc. hygienic spaces can be provided. Coach support can be provided through the Provincial Directorates of Youth and Sports for conscious sports. Pre-test and post-test measurements (such as fat percentage, circumference measurement) can be taken to ensure motivation of the participants. Dietician support can be provided in the hospital for conscious nutrition.

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Ethical approval: This study was approved by the Ethics Committee of Gazi University (Date: 09/07/2024, No:12). All participants provided informed consent electronically before participation. In this study, we have followed all the Helsinki guidelines at all stages for human studies and met the current ethical standards in Sport and Exercise Science.
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