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Source: Environmental Health Insights, 16(1)

Published By: SAGE Publishing

URL: https://doi.org/10.1177/11786302221131690

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Environmental Health Insights
Volume 16: 1–9
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DOI: 10.1177/11786302221131690

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ABSTRACT

BACKGROUND: Work-related musculoskeletal symptoms (WMSs) are common injuries or pains that primarily affect various body structures. It is difficult to estimate the burden of WMSs in developing countries such as Ethiopia due to a lack of evidence, particularly among university academic staff. There is a universal and rapidly growing need for information about WMSs, as this is the main challenge to public health and economic burden. The purpose of this study was to determine the magnitude of work-related musculoskeletal symptoms and their associated factors among academic staff in Ethiopian universities.

METHODS: From February 2 to March 24, 2021, a web-based cross-sectional study was conducted among 422 academic staff members working in Ethiopian universities. A structured and self-administered Google Form questionnaire was sent and shared with the academic staff via their email addresses, Facebook, and Telegram accounts. Using a p-value of <0.05 and a 95% confidence interval, multivariable logistic regression was used to identify factors associated with the outcome variable.

RESULTS: Around 321 (77.2%) of the 416 participants were reported to have work-related musculoskeletal symptoms at least in one part of the body (95% CI: 73.1, 81.5%), with 28.1% reporting lower back pain. Respondents working in second-stage universities (AOR = 7.35, 95% CI 3.21, 16.79), being 44 years old or older (AOR = 7.89, 95% CI 2.10, 21.57), having a Ph.D. (AOR = 7.09, 95% CI 1.50, 17.93), engaging in physical activity (AOR = 3.32, 95% CI 1.43, 7.74), and working on a computer (AOR = 6.89, 95% CI 2. 0.72, 19.15) were the factors associated with work-related musculoskeletal symptoms.

CONCLUSION: Almost three-quarters of academic staff reported work-related musculoskeletal symptoms in this survey. Factors such as university establishment stage, age, educational status, physical activity, and frequent computer use were found to be significantly associated with work-related musculoskeletal symptoms.

KEYWORDS: Academic, Factors, Musculoskeletal, Staff, Universities

RECEIVED: July 20, 2022. **ACCEPTED:** September 22, 2022.

TYPE: Original Research Article

FUNDING: The author(s) received no financial support for the research, authorship, and/or publication of this article.

DECLARATION OF CONFLICTING INTERESTS: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Introduction

Work-related musculoskeletal symptoms (WMSs) are common injuries that primarily affect body structures like tendons, muscles, joints, ligaments, nerves, and bones.[1,2] Musculoskeletal symptoms of affected body parts include discomfort, pain, and swelling, which can lead to disability. Static body positions, repetitive movements, prolonged muscular contractions, and weight lifting are the most common collective causes of these work-related musculoskeletal symptoms.[3,4] According to the World Health Organization, physical inactivity is the "new smoking" an encumbered bomb of ill-health on the border of explosion. Poor workplace and physical health can result in corporate losses due to lower productivity and absenteeism, as well as increased health-care costs.[5,6]

Academic jobs require constant computer use, including typing and sitting, which increases the risk of musculoskeletal problems due to computer use is an integral part of training, particularly in universities.[7] Musculoskeletal symptoms are a growing public health concern that affects both young and old people aged 20 to 80.[8-12] The magnitude of WMSs varies depending on the study populations as well as across countries.[13] A recent survey conducted in several countries found that the prevalence of work-related musculoskeletal symptoms ranged from 55% to 85.7% among computer users, office workers, and academic personnel.[14-17]

Individuals are living longer lives with a higher prevalence of non-communicable diseases and injuries such as musculoskeletal symptoms around the world.[18] According to the Global Burden of Disease survey conducted in 2010 and 2016; musculoskeletal pain was the leading cause of physical injuries and disabilities, ranking sixth among the top ten diseases in terms of global burden of disease.[18-20] The musculoskeletal disorder is

well-known as one of the most expensive symptoms among the working population, with devastating economic, societal, and public health consequences around the world. Approximately 9.5 million working days were lost due to musculoskeletal symptoms at work.[13,21]

The lifetime incidence of lower back pain ranged from 58% to 80%, affecting 80% of people in developed countries.[21] The multifactorial risk factors for musculoskeletal symptoms in adult workforces worldwide were prolonged awkward posture and computer use, some degree of the whole body vibration, and participation in repetitive activities.[13,22-26] On the other hand, Age, gender, unstable health conditions, service years, poor ergonomic practice at work, and job stress were the most common associated factors with musculoskeletal symptoms among academic staff.[27-31]

It is difficult to estimate the burden of WMSs in developing countries such as Ethiopia due to a lack of evidence, particularly among university academic staff.[32,33] As a result; the purpose of this study was to determine the magnitude of work-related musculoskeletal symptoms and associated factors among academic staff in Ethiopian universities.

Methods

Study designs and settings

A web-based cross-sectional survey was carried out among academic staff working in Ethiopian universities from February 02, 2021 to March 24, 2021. Ethiopia is a huge country, with diverse nations and nationalities, with more than 90 ethnic and linguistic groups and a total population of around 117 million people. Ethiopia has ten administrative regions, with rural areas housing more than 80% of the population. Ethiopia currently has 45 universities, with 8, 14, and 23 being first-, second-, and third-generation universities, respectively. Ethiopian universities are estimated to have 32 000 academic staff.[34,35]

Population and eligibility

All Ethiopian university academic staff made up the source and study population. During the data collection period, the study included all academic staff that used email or other social media. Academic staff with inactive email addresses and other social media accounts were excluded from the study, with a few exceptions. On the other hand, academic staff with a history of musculoskeletal system injuries, spinal surgery, or major surgery in any part of the body, congenital anomalies such as spine and limb anomalies, and pregnant women, was excluded from the study.

Sample size determination and sampling techniques

The sample size was determined using a single population proportion formula ($n = Z^2_{a/2}(p(1-p)/d^2)$). Considering a 50% proportion (P), a 95% level of confidence ($Z_{a/2}$), a 5% margin of error (d), and a 10% non-response rate, we lastly attained a sample size of 422. The snowball sampling technique was used to access academic staff that was using email and other social media like Facebook and Telegram. We considered non-discriminative exponential snowball sampling technique, in which the first subject is recruited and then provides multiple referrals. Each new referral generates more data for the next referral, and so on, until the desired sample size is reached.

Data collection tool and procedures

First, the questionnaires were prepared in English using Google form by reviewing former studies.[36-39] The data collection tool includes socio-demographic, ergonomic practice during computer use, and work-related musculoskeletal symptoms items/questions (supplementary file 1). Data was collected through a pretested, structured, web-based, and self-administered questionnaire. The prepared Google form link was shared with the Academic staff working in Ethiopian universities through their email addresses, Facebook, and Telegram accounts. The online Google form link is found at https://docs.google.com/forms/d/e/1FAIpQLScQQZYjOqil9bbePpbpYfoAUbQmUcxnSvv4jKNBK8202hnQJw/viewform?usp=sf_link.

Data processing and analysis

The Google form responses were entered into an excel spreadsheet and then exported to STATA version 14. The descriptive analysis made use of a frequency table, cross-tabulation, and charts. To identify factors associated with work-related musculoskeletal symptoms, a binary logistic regression model was used with all required assumptions checked. The data's normality was checked, Hosmer and Lemeshow's model fitness test (0.847) was used, and the multicollinearity of independent variables was tested using the variance inflation factor (VIF < 10). Candidates for multivariable binary logistic regression can be variables with a p-value of <0.20 in the bivariable logistic regression analysis. In this regard, a p-value of <0.05 with a 95% confidence level was considered statistically significant for all variables.

Operational definitions

A work-related musculoskeletal symptom (WMSs) is a self-reported pain or discomfort in at least one of the body sites in the past 12 months. The body sites include the neck, shoulder, upper back, lower back, /leg, ankle, foot, elbow, and wrist/hand.[40] The presence of WMSs was coded as "yes" if WMSs were reported and "no" if WMSs symptoms had not been reported.

Academic staffs are instructors who work in academic settings (teaching, learning, research, and community service).[41]

Physical activity: Perform any type of physical activity per week more frequently when respondents select at least one of the two response options (always or often) and less frequently when respondents select one of the three response options (sometimes, rarely, or never).

Seating position with bending back: Seating up right with bending back occurs more frequently when respondents choose at least one of the two response options (always or often) and less frequently when respondents choose one of the three response options (sometimes, rarely, or never).

Results

Socio-demographic characteristics

A total of 416 respondents have accomplished the online survey questionnaire with a response rate of 98.6%. Of these participants, 301 (72.4%) were males, and 227 (54.6%) of them were within the age category of 24 to 33 years old. Concerning educational status, around 317 (76.2%) of respondents attained up to a second degree or masters, and 150 (36.1%) of them had 1 to 5 service years. One hundred sixty-seven respondents (40.1%) walked on foot to reach their working institution (Table 1).

Ergonomic practices during computer use

In this study, 209 respondents (50.2%) reported that the chairs used at the workplace do not have foot and hand rests. About 145 (34.9%) of the respondents frequently perform physical exercise per week. One hundred seventy-nine respondents (43%) were working frequently on their computers, and 83.4% of them were taking regular breaks of 20 to 60 minutes per day. Regarding the regular seating position, around 159 (38.2%) of respondents reported the regular sitting position with a bent back (Table 2, Figures 1 and 2).

Prevalence of work-related musculoskeletal symptoms (WMSs)

Approximately 321 (77.2%; 95% CI: 73.1, 81.5%) of the total study participants were reported to have work-related musculoskeletal symptoms at least in one part of the body. Upper back pain (23.1%) and lower back pain (28.1%) were the most commonly reported musculoskeletal symptoms by respondents. Three hundred fifty-eight (38.0%) of the respondents reported mild work-related musculoskeletal symptoms (Figures 3 and 4).

Factors associated with work-related musculoskeletal symptoms

In this study, working at the second established university, age, educational status, service years, physical exercise, workplace safety guidelines, and frequent working on the computer were factors associated with a work-related musculoskeletal disorder in multivariable logistic regression. Respondents working in second-stage universities were nearly 7 times more likely to

Table 1. Socio-demographic characteristics of Academic staff in Ethiopian Universities, 2021 (n = 416).

VARIABLES	N (%)	PRESENCE OF WMSS IN PAST 12 MONTHS	
		YES (%)	NO (%)
Regions			
Harari	3 (0.7)	3 (100)	0
Sidama Zone	4 (1.0)	3 (75.0)	1 (25.0)
Gambella	9 (2.2)	7 (77.8)	2 (22.2)
Somali	10 (2.4)	7 (70.0)	3 (30.0)
Dire-Dawa	12 (2.9)	10 (83.3)	2 (16.7)
Tigrai	20 (4.8)	13 (65.0)	7 (35.0)
Benishangul-Gumuz	21 (5.0)	12 (57.1)	9 (42.9)
SNNP	56 (13.5)	41 (73.2)	15 (26.8)
Oromia	144 (34.6)	117 (81.3)	27 (18.7)
Stage of university			
First-generation	133 (32.0)	104(78.2)	29 (21.8)
Second generation	219 (52.6)	174 (79.5)	45 (20.5)
Third generation	64 (15.4)	43 (67.2)	21 (32.8)
Sex			
Male	301 (72.4)	236 (78.4)	65 (21.6)
Female	115 (27.6)	85 (73.9)	30 (26.1)
Educational status			
First degree (BSc or BA)	52 (12.5)	35 (67.3)	17 (32.7)
Second degree (Master)	317 (76.2)	247 (77.9)	70 (22.1)
Third-degree (Ph.D.)	47 (11.3)	39 (83.0)	8 (17.0)
Age of respondents			
24-33 year	227 (54.6)	164 (72.2)	63 (27.8)
34-43 year	162 (38.9)	135 (83.3)	27 (16.7)
44 and above years	27 (6.5)	22 (81.5)	5 (18.5)
Service years			
1-5 service year	150 (36.1)	115 (76.7)	35 (23.3)
6-10 service year	129 (31.0)	95 (73.6)	34 (26.4)
11-15 service year	102 (24.5)	84 (82.4)	18 (17.6)
16 and above service year	35 (8.4)	27 (77.1)	8 (22.9)
Means of Transportation			
Public transportation	123 (29.6)	109 (88.6)	14 (11.4)
Institution own transportation	126 (30.3)	95 (75.4)	31 (24.6)
Walking on foot	167 (40.1)	117 (70.1)	50 (29.9)

SNNP- Southern, Nation and Nationality People

Table 2. Ergonomic practices during computer use among Academic staff in Ethiopian Universities, 2021 (n = 416).

ITEMS/QUESTIONS	RESPONDENT'S N (%)	PRESENCE OF WMSS IN PAST 12 MONTH	
		YES (%)	NO (%)
Laptop is carried/hanged at			
Both side (shoulder)	126 (30.3)	100 (79.4)	26 (20.6)
One side(shoulder)	252 (60.6)	190 (75.4)	62 (24.6)
One hand	38 (9.1)	31 (81.6)	7 (18.4)
Presence of workplace safety guideline			
Yes	158 (38.0)	123 (77.8)	35 (22.2)
No	211 (50.7)	160 (75.8)	51 (24.2)
I don't know	47 (11.3)	38 (80.9)	9 (19.1)
Physical exercise per week			
Always	33 (7.9)	31 (93.9)	2 (6.1)
Often	145 (34.9)	115 (79.3)	30 (20.7)
Sometimes	127 (30.5)	95 (74.8)	32 (25.2)
Rarely	78 (18.8)	61 (78.2)	17 (21.8)
Never	33 (7.9)	19 (57.6)	14 (42.4)
Frequency of work on your computer?			
Rarely	22 (5.3)	14 (63.6)	8 (36.4)
Sometimes	57 (13.7)	38 (66.7)	19 (33.3)
Often	179 (43.0)	141 (78.8)	38 (21.2)
Always	158 (38.0)	134 (84.8)	24 (15.2)
Frequency of lower back supported properly when you sitting			
Never	15 (3.6)	9 (60.0)	6 (40.0)
Rarely	68 (16.3)	55 (75.3)	18 (24.7)
Sometimes	127 (30.5)	108 (75.5)	35 (24.5)
Often	135 (32.5)	116 (79.5)	30 (20.5)
Always	64 (15.4)	33 (84.6)	6 (15.4)
Average time of standing in hours per day			
1-3 h	310 (74.5)	240 (77.4)	70 (22.6)
4-6 h	106 (25.5)	81 (76.4)	25 (23.6)
Average time of sitting in hours per day			
1-4 h	169 (40.6)	133 (78.7)	36 (21.3)
5-9 h	217 (52.2)	162 (74.7)	55 (25.3)
10 and above hours	30 (7.2)	26 (86.7)	4 (13.3)
Health break per day			
20-60 min	347 (83.4)	267 (76.9)	80 (23.1)
61-120 min	69 (16.6)	54 (78.3)	15 (21.7)

develop work-related musculoskeletal symptoms (WMSs) than those working in first-stage universities (AOR = 7.35, 95% CI: 3.21, 16.79). The odds of developing WMSs among Ph.D. attained academic staff were 7 times higher in relation to their counterparts (AOR = 7.09, 95% CI 1.50, 17.93). Respondents 44 years old and older were nearly 8 times more likely to develop WMSs than younger respondents (AOR = 7.89, 95% CI: 2.10, 21.57). In terms of service years, academic staff with 16 or more years of experience were 88% less likely to develop WMSs than their counterparts (AOR = 0.12, 95% CI 0.02, 0.71). The odds of having WMSs were 3.32 times more likely among respondents less frequently performing physical exercise per week than their counterparts (AOR = 3.32, 95% CI 1.43, 7.74). Respondents who worked on their computers frequently were nearly 7 times more likely to develop WMSs than those who worked on their computers less frequently (AOR = 6.89, 95% CI 2.72, 19.15). The odds of having WMSs were nearly 4 times higher among academic staff who did not know about the presence of workplace safety guidelines in their institution than their counterparts (AOR = 4.35, 95% CI 1.83, 9.13) (Table 3).

Discussion

Work-related musculoskeletal symptoms (WMSs) are a significant cause of work-related injury and disability in developed and developing countries. A poor working environment and the absence of effective work-related injury prevention programs give rise to a very high rate of WMSs in developing countries like Ethiopia.[42] This study aimed to assess the magnitude of WMSs and associated factors among academic staff in Ethiopian universities. The current study found that 77.2% of respondents had a work-related musculoskeletal symptom (WMSs) at least in one part of the body, which is slightly higher than study findings in Mekelle University, Ethiopia (65.2%[43]), Nigeria (71.7%[30]), and a little bit lower than study finding in Malaysia (78.9%[28]), Nepal (80.7%).[44] On the other hand, the finding in this study was relatively lower when compared to the findings in Ireland (85%[31]) and Brazil (85.7%[7]). Possible explanations for this variation include differences in study year, sample size, workload, assessment tools, and operational definition of WMSs. The most common body part pains or discomforts reported by respondents in this study were upper (23%) and lower back (28%), respectively. This could be because academic staff uses computers in their daily activities, resulting in a prolonged sedentary working habit that exposes them to such WMSs. The findings of this study were lower than those of a study conducted at Mekelle University in Ethiopia, where upper back (neck) pain was 41.5% and lower back pain was 40.3%[43]; in the other university environment, lower and upper back pain were 47 and 59%, respectively.[27] This variation could be explained by respondent characteristics such as prolonged sitting with a bent back and standing position, which cause pain in the upper and lower back. Previous research has shown that prolonged sitting causes quick stiffness

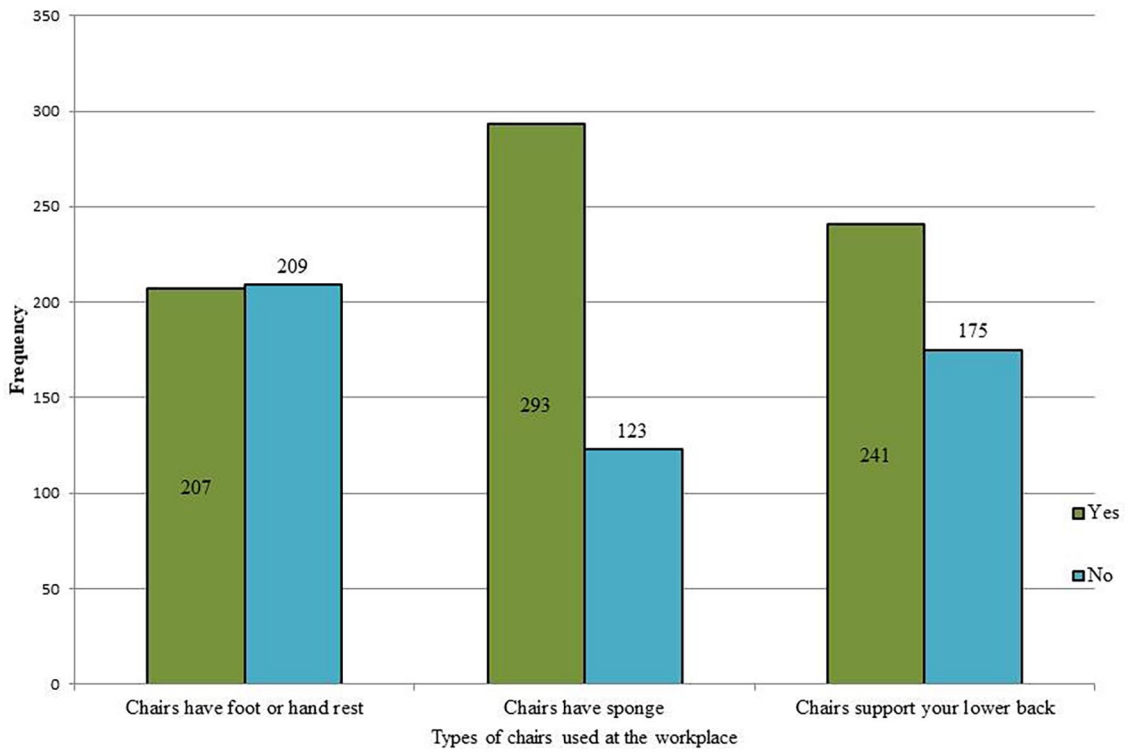

Figure 1. Shows the types of chairs used at workplace reported by academic staff in Ethiopian Universities, 2021.

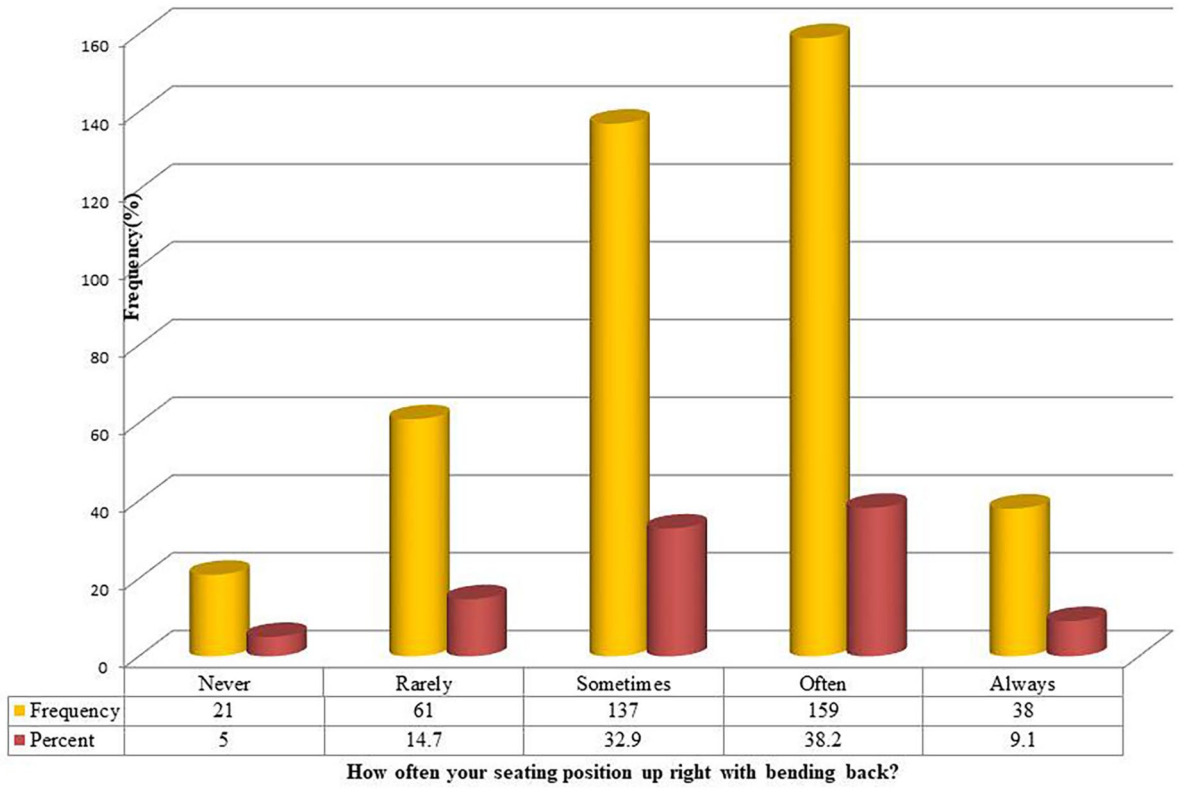

Figure 2. Shows the frequency seating position with bending back reported by academic staff working in Ethiopian Universities.

of the lumbar area, which bending the lumbar area may alter the passive painfulness of the lumbar spine or the lower back predisposes the lumbar area to injury, and that prolonged sitting without breaks causes firmness of the disk height at the 4 to 5 level.[45-47] Of respondents who reported the presence of WMSs, around 38.0% and 35.1% of the respondents were found to have mild and moderate pains or discomfort. This finding could be based on each study participant's personal

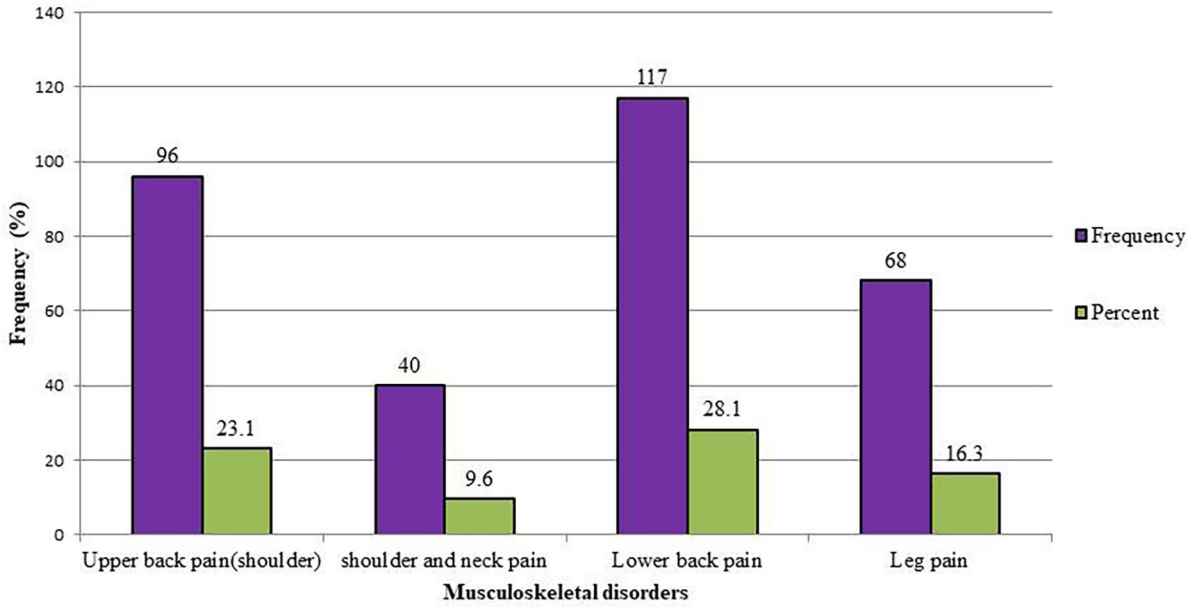

Figure 3. Shows musculoskeletal symptoms reported by academic staff working in Ethiopian Universities, 2021.

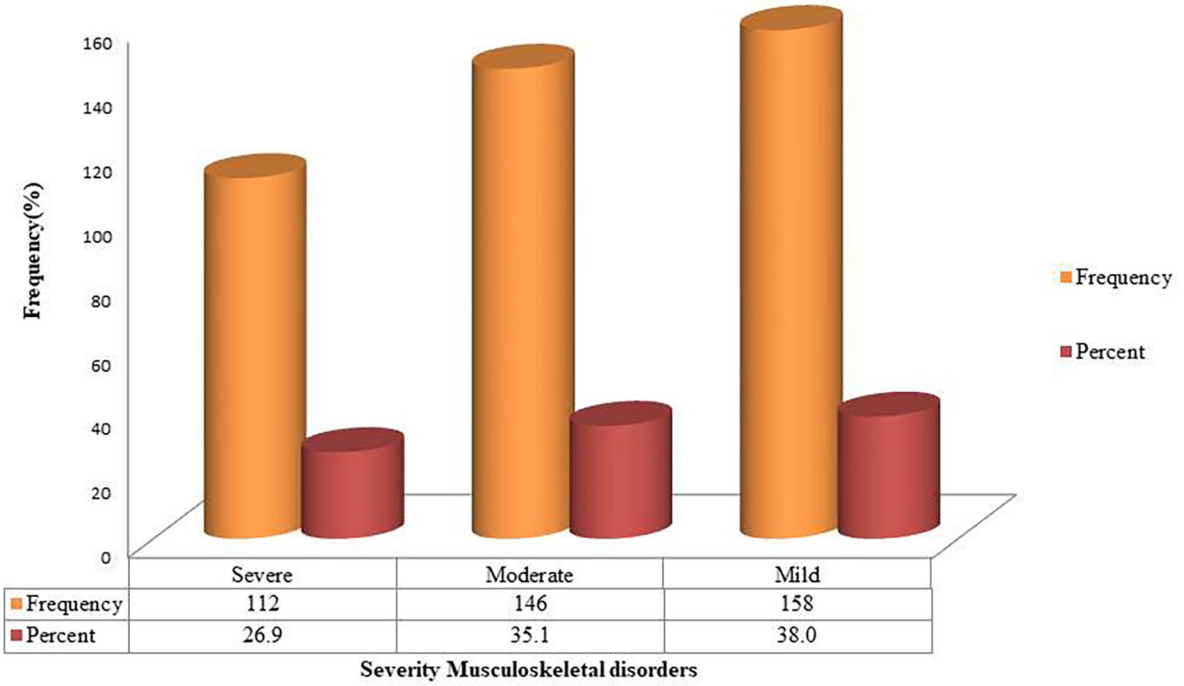

Figure 4. Shows the severity of musculoskeletal symptoms reported by academic staff working in Ethiopian universities, 2021.

perceptions of mild and moderate pain for the reported musculoskeletal symptoms.

Several important variables were examined in this study using variable and multivariable logistic regression to identify factors associated with the outcome variable. In the final model, factors associated with work-related musculoskeletal symptoms included age, educational status, service years, physical exercise, the presence of workplace safety guidelines, and frequent computer use. Academic staff working in the universities established at the second stage was more likely to develop WMSs than those working in the first established universities. This observed dissimilarity might be due to differences in the implementation of workplace safety guidelines; the most senior universities may have proper infrastructure, services, and furniture (ergonomically recommended chairs and tables) that enable academic staff to minimize WMSs. The respondents within the age category of 44 years old and above were more likely to develop WMSs than younger respondents. This study's findings were consistent with the findings in Nigeria.[48] This might be due to age-related variations that affect the functional

Table 3. Bivariable and multivariable logistic regression analysis for musculoskeletal disorder among academic staff in Ethiopian Universities, 2021 (n = 416).

VARIABLES	PRESENCE OF WMSS		COR 95% CI	P-VALUE	AOR 95% CI	P-VALUE
	YES (%)	NO (%)				
University generation						
First-generation	104 (78.2)	29 (21.8)	1		1	
Second generation	174 (79.5)	45 (20.5)	6.37 (3.09, 13.15)	.012	7.35 (3.21,16.79)	.001
Third generation	43 (67.2)	21 (32.8)	1.85 (0.71, 4.80)	.135	2.68 (0.93, 7.71)	
Educational status						
First degree (BSc or BA)	35 (67.3)	17 (32.7)	1		1	
Second degree (Master)	247 (77.9)	70 (22.1)	2.92 (1.23, 6.93)	.003	2.60 (0.97, 6.98)	.009
Third degree (PhD)	39 (83)	8 (17)	6.20 (1.75, 12.18)	<.001	7.09 (1.50,17.93)	<.001
Age						
24-33 year	164 (72.2)	63 (27.8)	1		1	
34-43 year	135 (83.3)	27 (16.7)	4.27 (2.16, 8.44)	.023	4.07 (1.60,10.35)	.001
44 and above years	22 (81.5)	5 (18.5)	2.28 (0.63, 8.20)	.014	7.89 (2.10,21.57)	.006
Service years						
1-5 service year	115 (76.7)	35 (23.3)	1		1	
6-10 service year	95 (73.6)	34 (26.4)	0.87 (0.42, 1.84)	.153	0.42 (0.18, 0.98)	.232
11-15 service year	84 (82.4)	18 (17.6)	2.44 (1.03, 5.77)	.042	0.51 (0.17, 1.51)	.065
16 and above service year	27 (77.1)	8 (22.9)	1.01 (0.33, 3.08)	.345	0.12 (0.02, 0.71)	.0027
Types of the computer used						
Laptop only	197 (76.4)	61 (23.6)	1			
Laptop and desktop	121 (79.1)	32 (20.9)	0.81 (0.44, 1.50)	.345		
Desk top only	3 (60)	2 (40)	0.15 (0.06, 0.46)	.025		
Presence of workplace safety guideline						
Yes	123 (77.8)	35 (22.2)	1		1	
No	160 (75.8)	51 (24.2)	0.57 (0.30, 1.84)	.136	1.10 (0.47, 2.56)	.426
I don't know	38 (80.9)	9 (19.1)	1.75 (0.56, 5.47)	.213	4.35 (1.83, 9.13)	.002
Average time of standing in hours per day						
1-3 h	240 (77.4)	70 (22.6)	1			
4-6 h	81 (76.4)	25 (23.6)	3.56 (0.27, 7.01)	.234		
Seating position with bending back						
Less frequently	157 (71.7)	62 (28.3)	1			
More frequently	164 (83.2)	33 (16.8)	3.01 (1.60, 5.70)*	.042		
Frequency of work on your computer?						
Less frequently	46 (58.2)	33 (41.8)	1		1	
More frequently	275 (81.6)	62 (18.4)	6.74 (3.15, 14.45)	.03	6.89 (2.72, 19.15)	.002
Physical exercise per week						
Less frequently	175 (73.5)	63 (26.5)	3.23 (1.72, 6.10)	.035	3.32 (1.43, 7.74)	.009
More frequently	146 (82)	32 (18)	1		1	

*p-value <0.05 and 95% CI for A, does not include 1.

capacities of adults over time, which in turn lead to an increase in work-related musculoskeletal symptoms.[1] In terms of service years, Academic staff with 16 or more years of experience were less likely to develop WMSs than their counterparts. On the contrary, a study conducted in Nigeria[48] found that as service years increased, the likelihood of developing a work-related musculoskeletal disorder increased. This discrepancy might be due to the fact that the data is self-reported, in which case it may be hidden, and they may recover from WMSs before the intended study period. The respondents frequently working on their computers were more likely to develop WMSs when compared to those working on their computers less frequently. This finding was comparable with the study findings at Mekelle University, Ethiopia,[43] Brazil,[7] and Malaysia.[28] This might be due to the fact that working for an elongated period without shifting positions may predispose Academic staff to microtrauma and soft tissue damage.[31] On the other hand, the odds of having WMSs were more likely among respondents who perform physical exercise per week less frequently than their counterparts. This finding was in line with a study done at Mekelle University, Ethiopia,[43] the Republic of Ireland,[31] and Saudi Arabia.[41] This might be due to regular exercise being able to create stronger muscles that improve muscle action against workload stress and pain during tiresome work.[13] Moreover, it might be due to the fact that sedentary life can lead to poor muscular strength and also expose the muscles to muscular spasms and tiredness, which can probably escalate the risk of WMSs.[41]

Limitations of the study

Some of the limitations of this study were the presence of musculoskeletal symptoms determined through a questionnaire-based approach or self-reported pain that may differ from their real situation. The respondents were limited to social media and internet users. The study findings might not reveal the whole country's actual condition due to the under-representation of certain universities. Another limitation of the study related to the lack of physical examination to confirm work-related musculoskeletal symptoms and all findings of this study was not compared with previous findings, due to limited literatures. Despite these limitations, the study provides relative data for policymakers and health care planners. Future studies should consider longitudinal and experimental study designs to offer deeper insights into work-related musculoskeletal symptoms.

Conclusion

In this survey, nearly three-quarters of academic staff reported having work-related musculoskeletal symptoms at least in one part of the body. Lower and upper back pains were the most commonly reported WMSs. In this study, factors associated with work-related musculoskeletal symptoms included age, educational status, service years, physical exercise, the presence of workplace safety guidelines, and frequent computer use. As a result, it is preferable to establish a workplace safety policy and provide ergonomically appropriate furniture (chairs, tables) to all academic staff. Improving poor ergonomic practices through proper training, reducing long periods of sedentary work without a break, and engaging in regular physical activity per week would be critical in addressing the problem.

Acknowledgement

We would like to thank all the study participants and Madda Walabu University for their helpful participation in this study.

Author Contributions

DZ: Conceptualizes the study, designs the study and data curation, performs the analysis, writes and approves the final manuscript. BS, DD, TT, DA and AM: contributed to the analysis, reviewed the manuscript critically, and approved the final manuscript. Before submission, all authors read and approved the final manuscript.

Ethical Approval and Consent to Participate

The online survey was conducted according to the Helsinki declaration after ethical clearance was obtained from the Ethical Review Board of the Madda Walabu University Goba referral hospital. Participants were informed to fill the online self-administered questionnaire voluntarily with a full right not to respond to all or any of the questions. The online survey has no personal identifier, so that anonymity was kept. The first online pages for the self-administered questionnaire could be accessed by the participants and have information to go ahead to the next page if they fully consent to take part.

Consent for publication

Not applicable.

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Supplemental material

Supplemental material for this article is available online.

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