ORIGINAL RESEARCH

ASSOCIATION AMONG HEALTH STATUS, DISABILITY PROFILE AND WORK- RELATED QUALITY OF LIFE OF STAFF OF A UNIVERSITY

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ABSTRACT

Background: Health status could be impacted by disability, and might affect workplace productivity and quality of life. There appears to be a dearth of studies on the association among health status (HS), disability profile (DP) and work-related quality of life (WRQoL) among workers.

Aim: This study investigated the association among HS, DP and WRQoL of staff of a university.

Methods: Participants in this cross-sectional study were recruited using a stratified sampling technique. The HS, DP and WRQoL were assessed using Short Form Health Survey (SF-12) Questionnaire, Washington Group Questionnaire and Work-Related Quality of Life Scale respectively. Data were summarized using mean, frequency, percentage and standard deviation. Chi-square test was used to evaluate the association among HS, DP and WRQOL. Mann-Whitney U test was used to evaluate the difference in HS, DP and WRQOL between the academic and non-academic staff. Level of significance was set at $p<0.05$.

Results: Three hundred and seventy (370) workers participated in the study (46.2±10.15 years; male, 56%) with 52.7% reporting a better HS and 87.8% reporting no disability. About 95.4% had a high level of WRQoL. There was a significant association between HS and DP (p=0.001); HS and WRQOL (p=0.002) as well as DP and WRQoL (p=0.001). There was a significant association between academic

qualification and HS (p=0.003). There was a significant difference in health status between the academic and non-academic staff (p=0.02). However, there was no significant difference in disability profile between the academic and non-academic staff (p=0.48) as well as WRQOL (p=0.66).

Conclusion: This study concluded that most of the staff of the University of Ibadan had good health status, were without disability and had high level of WRQOL. Efforts should be made to sustain these health parameters among staff members.

Keywords: Health status, disability profile, work, related quality of life, staff

INTRODUCTION

Health status is a measure of how people perceive their health which they may rate as excellent, very good, good, fair, or poor[1]. According to the World Health Organization, the main determinants of health include the social and economic environment, the physical environment and the person's individual characteristics and behaviours[2]. Reported health status is a predictor of important health outcomes including mortality, morbidity, and functional status[3]. An individual's ability to have a high quality of life, maintain independence and participate fully in the society can be influenced by health status[4]. An individual's health status can affect their performance at work, as poor health may lead to decreased productivity, increased absenteeism and difficulty in maintaining a work-life balance. Studies have shown that poor health can negatively impact various dimensions of work-related quality of life, such as job satisfaction, work engagement and overall productivity[5,6]. Conversely, good health can enhance job satisfaction, performance and overall well-being contributing positively to work-related quality of life. Factors that may impact self-reported health status include severity of disability or health condition, duration of the disability and type of activity limitation of the person with the disability[7].

Research has shown that disability has significant negative impact on health status of individuals and their capacity to work, which could cause work limitation[8]. Disability is any condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions). According to the World Health Organization[9], disability results from the interaction between individuals with a health condition with personal and environmental factors including negative attitudes, inaccessible transportation and public buildings and limited support[2]. About one billion people have one or another form of disability, whereas close to 110-190 million adults have major limitations in performing their routine activities[9]. Adults with disabilities are 4 times more likely to report their health to be fair or poor than people with no disabilities (40.3% vs 9.9%)[10]. The WHO estimates that over 15% of the world's population lives with some form of disability, with about 12% of the US population having disabilities[9]. People with disabilities may have difficulties performing job-related tasks, leading to decreased productivity in their workplace[10].

In the workplace context, there is a possibility that individuals may lack awareness of their disabilities. This lack of awareness could add to the potential consequences on both physical and mental well-being. Factors contributing to this lack of awareness include the gradual onset of

conditions, a general lack of knowledge about specific health issues and the persisting stigma that surrounds disability disclosure[11]. This combination of factors shapes an environment where individuals may not fully grasp the complexities of their own situations. Disability can significantly impact the health status of individuals, particularly in the workplace, as undetected disabilities can lead to stress, which could affect mental health and overall well-being. The severity and nature of the disability can influence an individual's health status and subsequent quality of life outcomes. Having a disability, irrespective of type, increases the risk of developing mental health problems and disorders because of associated adverse individual and environmental factors[2]. Research has shown that approximately 20% of employees reported having an unrecognized disability and these could impact their health and well-being[12].

Work- related quality of life (WRQoL) is a broad concept used to define the quality of life of individuals at their workplace, be it of any type or size[13]. Quality of work life can affect staff performance and job engagement and these also predict the quality of organizational service. The quality of work life is important because it is associated with employee commitment, organizational effectiveness and productivity[14]. Having some form of disability can affect work-related quality of life in various ways, these could be difficulties assessing the workplace, limitations in performing job tasks and potential discrimination. Individuals with disabilities may also face specific health challenges that can impact their work-related quality of life[15].

Overall, understanding the association among health status, disability profile and work-related quality of life is crucial for improving the well-being of individuals with disabilities. Considering various disabilities and health conditions, as well as their impact on work-related quality of life, interventions can be developed to address the specific needs of these individuals and enhance their overall well-being. This study was aimed at determining the association among the health status, disability profile and work - related quality of life of staff of University of Ibadan.

MATERIALS AND METHODS

Study design and population

The study was a cross-sectional study in which stratified sampling technique used to select participants from the two classes of staff in University of Ibadan (academic staff and non-academic staff). The sample size for this study was calculated using the Slovin's formula $n= N/(1+N(e^2)$. n=required sample size; N=Total population of staff. The calculated sample size was 370 and based on the ratio of academic staff to non-academic staff (1:2.3) obtained from the registry department of the University, the academic staff sample size was 113 while the non-academic staff sample size was 257. Participants were recruited from randomly selected faculties which have both categories of staff (Faculty of Science, Faculty of Arts, Faculty of Social Science, Faculty of Technology, Faculty of Public Health and Faculty of Education). Some non-academic members of staff were further recruited from other administrative offices which have only non-academic staff, such as the registry, the bursary and the works offices. Ethical approval was sought and obtained from University of Ibadan/University College Hospital Health Research Ethics Committee (UI/EC/23/0807) before the commencement of the study. An informed consent form was

administered to seek and obtain consent from the participants who met the inclusion criterion, before the administration of the questionnaires. The inclusion criterion was that they must have been working in the University for at least 2 years. The nature, purpose and rationale of the study were explained to each participant and they were also informed of their freedom to refuse to take part in the study.

The set of questionnaires was distributed to each participant - the Health Status (HS), Disability Profile (DP) and Work-related Quality of Life Scale (WRQoL) were assessed using Short Form Health Survey (SF-12) Questionnaire, Washington Group Questionnaire and Work-Related Quality of Life Scale respectively. The duration of completion the questionnaires was between 7 and 15 minutes. The completed questionnaires were retrieved by the researcher immediately or later depending on the participants' preference. A sociodemographic data form (Appendix VI) was included to elicit responses about age, gender, marital status, highest level of education.

Data analysis

Data were summarized using descriptive statistics of mean, frequency, percentages, standard deviation while inferential statistics of Chi- square test was used to test the association among the following:

- Health status, disability profile and work- related quality of life of members of staff of the University of Ibadan.
- Health status and each of age group, gender, and academic qualification of members of staff of the University of Ibadan.
- Disability profile and each of age group, gender and academic qualification of members of staff of the University of Ibadan.
- Work-related quality of life and each of age group, gender and academic qualification of members of staff of the University of Ibadan.

Similarly, Mann-Whitney U test was used to test for the difference in health status, disability profile and work-related quality of life between academic and non-academic staff of University of Ibadan. The level of significance was set at 0.05.

RESULTS

Socio-demographic characteristics of participants

Three hundred and seventy questionnaires were self-administered to participants from University of Ibadan. All (100%) the questionnaires were retrieved and deemed fit for analysis.

Two hundred and seven (55.9%) participants were males and 163 (44.1%) were females. The participants' age were ranged from 24 to 67 years (mean=46.2±10.2 years). Participants' sex distribution, marital status, level of education and religion are summarized in table 1. One hundred and thirteen (113) academic staff and 257 (257) non-academic staff were involved in the study.

Health status, disability profile and work-related quality of life of the participants

One hundred and seventy-five participants (47.3%) had poor health status while 195 participants (52.7%) had a better health status. Seventy-one participants (55.5%) aged between 41 and 50 years had better health status. Ninety-nine male participants

(47.8%) had poor health status while seventy-six female participants (46.6%) had poor health status. One hundred and seventy-one participants (55.3%) that were married had better health status. Sixty-nine participants (43.4%) with BSc had better health status. Seventy-three participants (64.4%) among the academic staff had better health status while 122 participants (47.5%) of the non-academic staff had better health status (Table 2).Three hundred and twenty-five (87.8%) participants were without disability while forty-five (12.2%) participants had disability. Fourteen participants (3.8%) had low level of work-related quality of life; three participants (0.8%) had average level of work-related quality of life while 353 participants (95.4%) had high level of work-related quality of life. There was significant association between the health status and work-related quality of life of participants (p=0.002); disability profile and work-related quality of life of participants (p=0.001) and health status and disability profile of participants (p=0.001).

Association between among socio-demographic variables (age, gender, academic qualification) and each of health status, disability profile and work-related quality of life

There was no significant association between participants' health status and any of age (p=0.21) and gender (p=0.82). The participants below the age of 30 years had the least proportion of people with better health status while participants within the age groups 41-50 and 51-60 years had the highest proportion of people with better health status. The higher percentage of male participants had better health status. However, there was a significant association between their academic qualification and health status (p=0.003). The participants with bachelor and doctoral degrees had higher proportion of people with better health status (Table 2).

There was no significant association between disability profile and any of participants' age (p=0.61), gender (p=0.49) and academic qualification (p=0.12). Participants within the age group, 41-50 years had the highest proportion of people with disability. Also, higher proportion of male participants had disability while participants with Bachelor degree had higher proportion of disability compared with other academic qualification (Table 3).There was no significant association between each of participants' age (p=0.41), gender (p=0.28), academic qualification (p=0.25) and their work-related quality of life. Participants within the age group 41-50 years and those with Bachelor degree had the highest proportion of people with high level of WRQoL. More male participants had high level of work-related quality of life (Table 4).

Differences in health status, disability profile and work-related quality of life between academic and non-academic staff of University of Ibadan

There was significant difference in the health status between academic and non-academic staff (p=0.02). However, there was no significant difference in the disability profile between academic staff and non-academic staff (p=0.48). Also, there was no significant difference in the work-related quality of life between academic staff and non-academic staff of University of Ibadan (p=0.66).

Table 1 Socio-demographic characteristics of the participants (N=370)

Variables	Frequency (n)	Percentage (%)
Age (years)		
Below 30	24	6.5
30-40	83	22.4
41-50	128	34.6
51-60	106	28.6
Above 60	29	7.8
Gender		
Male	207	55.9
Female	163	44.1
Marital status		
Single	47	12.7
Married	309	83.5
Widowed	9	2.4
Divorced	1	0.3
Separated	1	0.3
Others	3	0.8
Academic qualification		
Primary	2	0.5
SSCE	11	3.0
Bachelors	159	43.0
Masters	88	23.8
PhD	99	26.8
Others	11	3.0
Religion		
Christianity	322	87.0
Islam	46	12.4
Others	2	0.5
Category of staff		
Academic staff	113	30.5
Non-academic staff	257	69.5

Key:

SSCE – Senior Secondary Certificate
PhD – Doctor of Philosophy

Table 2 Association between health status of staff of University of Ibadan and each of selected socio-demographic variables (age, gender, academic qualification)

	Health status		χ^2	p
Variables	**Poor health status**	**Better health status**		
	n (%)	n (%)		
Age (years)			5.88	0.21
Below 30	16 (66.7%)	8 (33.3%)		
30-40	43 (51.8%)	40 (48.2%)		
41-50	57 (44.5%)	71 (55.5%)		
51-60	48 (45.3%)	58 (54.7%)		
Above 60	11 (37.9%)	18 (62.1%)		
Gender			0.53	0.82
Male	99 (47.8%)	108 (52.2%)		
Female	76 (46.6%)	87 (53.4%)		
Academic qualification			17.69	0.003*
Primary	1 (50.0%)	1 (50.0%)		
SSCE	8 (72.7%)	3 (27.3%)		
Bachelors	90 (56.6%)	69 (43.4%)		
Masters	32 (36.4%)	56 (63.6%)		
PhD	37 (37.4%)	62 (62.6%)		
Others	7 (63.6%)	4 (36.4%)		

Key:

SSCE – Senior Secondary Certificate
PhD – Doctor of Philosophy
χ^2 - Chi-square
*significant at p value < 0.05

Table 3. Association between disability profile of staff of University of Ibadan and each of selected socio-demographic variables (age, gender, academic qualification)

Variables	Disability Profile		χ^2	p-value
	People without disability n(%)	People with disability n(%)		
Age (years)			2.69	0.61
Below 30	23 (95.8%)	1 (4.2%)		
30-40	73 (88.0%)	10 (12.0%)		
41-50	109 (85.2%)	19 (14.8%)		
51-60	95 (89.6%)	11 (10.4%)		
Above 60	25 (86.2%)	4 (13.8%)		
Gender			0.49	0.49
Male	184 (88.9%)	23 (11.1%)		
Female	141 (86.5%)	22 (13.5%)		
Academic qualification			8.85	0.12
Primary	2 (100.0%)	0 (0%)		
SSCE	7 (63.6%)	4 (36.4%)		
Bachelors	136 (85.5%)	23 (14.5%)		
Masters	80 (90.9%)	8 (9.1%)		
PhD	90 (90.9%)	9 (9.1%)		
Others	10 (90.9%)	1 (9.1%)		

Key:
SSCE – Senior Secondary Certificate
PhD – Doctor of Philosophy
χ^2 - Chi-square

Table 4. Association between work-related quality of life of staff of University of Ibadan and each of selected socio-demographic variables (age, gender, academic qualification)

Variables	Work-related quality of life			χ^2	p-value
	Low	Average	High		
	n (%)	n (%)	n (%)		
Age (years)				8.28	0.41
Below 30	1 (4.2)	0 (0%)	23 (95.8)		
30-40	6 (7.2)	1 (1.2)	76 (91.6)		
41-50	3 (2.3)	1 (0.8)	124 (96.9)		
51-60	4 (3.8)	0 (0%)	102 (96.2)		
Above 60	0 (0%)	1 (3.4)	28 (96.6)		
Gender				2.57	0.28
Male	7 (3.4)	3 (1.4)	197 (95.2)		
Female	7 (4.3)	0 (0%)	156 (95.7)		
Academic qualification				12.62	0.25
Primary	0 (0%)	0 (0%)	2 (100)		
SSCE	1 (9.1)	0 (0%)	10 (90.9)		
Bachelors	6 (3.8)	1 (0.6)	152 (95.6)		
Masters	2 (2.3)	0 (0%)	86 (97.7)		
PhD	5 (5.1)	1 (1.0)	93 (93.9)		
Others	0 (0%)	1 (9.1)	10 (90.9)		

Key:
SSCE – Senior Secondary Certificate
PhD – Doctor of Philosophy
χ^2 - Chi-square

Table 5. Difference in health status, disability profile and work-related quality of life (WRQoL) between academic (n=113) and non-academic staff (n=257)

	Academic Mean rank	Non-academic Mean rank	Mann-Whitney U	p-value
Health status	207.51	175.82	12033.0	0.02*
Disability profile	176.10	189.63	13458.0	0.48
WRQoL	184.17	186.08	14370.5	0.66

*significant at p value < 0.05

DISCUSSION

The study was conducted to investigate the association between health status, disability profile and work-related quality of life among staff of a University in Nigeria and further associations between these parameters and socio-demographic characteristics of the participants were investigated. A higher proportion of the 370 participants were males which was a reflection of the overall distribution of member of staff working in the University. The mean age was within what is expected for individuals who work in a University setting in Nigeria, most were between 35 and 55 years. A high proportion of participants had Bachelors and higher degrees, as these are minimum requirements for securing employment in the University, especially for the academic and senior non-academic staff.

The observation that a higher proportion of the participants had better health status which might mean that the participants were not limited in moderate activities or had no pain interfering with their life. This is contrary to the findings of a similar study among university staff[16]. The profile of disability showed that a higher proportion of participants without disability. This is similar to the result of the study conducted by Shigaki et al.[17] which showed that 15% of the staff had disability. A study conducted, among health workers by Picakciefeet al.[18], reported that only 19.5% of workers had disability, similar to the results of a study conducted by Sulaiman et al.[19] which reported that there was low rate of disability among the staff who participated in their study. A greater proportion of the participants in our study had a high level of work-related quality of life (95.4%). This differed from the findings of the studies by Opollo et al.[20] and Moradi, et al.[21] which indicated that most participants had low level of work-related quality of life, although this could be due to differences in the population, as their study was carried out among healthcare workers.

The significant association between participants' health status and work-related

quality of life could mean that staff, with better health status, are likely to experience fewer physical and mental health issues, resulting in higher levels of energy, productivity and job satisfaction. Poor health often leads to increased absenteeism (missing work) and presenteeism (being at work and not fully productive). This could affect work-related quality of life leading to increased workloads for other staff, reducing team morale, and impacting overall organizational performance[22]. However, consideration must be given to the possibility of the existence of other factors, unrelated to work, which could directly influence participants' ratings of their health status. Diener & Chan[23] had a contrary finding to our result as their study showed there was no significant association between health status and work-related quality of life.

Participants' disability profile was significantly associated with work-related quality of life, similar to the result of a study conducted by Schur et al.[24]. A low level of disability would translate to a high level of work-related quality of life and health status among university staff. A previous study reported a significant association between health status and disability among staff[25]. Individuals with no disability are more likely to have better health status, which in turn impacts on their quality of life.

There was no significant association between the participants' sociodemographic data (age, gender) and each of health status, disability profile and work-related quality of life. This implies that the age and gender of staff had no influence on their health status, disability profile and work-related quality of life. Jetha et al.[26] reported that there was no significant association between age and disability among employed Canadians, although they found out that there was significant association between type of disability and gender; however, their study had more female participants.

Our study revealed a significant association between participants' academic qualification and their health status. Education often correlates with socio-economic status, and higher socio-economic status is associated with better health outcomes. Individuals with higher academic qualifications may have access to better-paying jobs, healthier living conditions, and greater resources to maintain their health[27]. It was observed that higher academic qualification did not determine their disability profile nor work-related quality of life. This result is in contrast to a study carried out by Abbasi et al.[28], where there was significant association between work-related quality of life and age, academic qualification among nurses working in educational hospitals.

The result of this study showed that there was significant difference in health status between the academic and non-academic staff. This could be due to several factors such as, job demands, stress levels, work environment and lifestyle habits. These results are consistent with the findings of a study carried out by Winefield & Jarrett[29], in which academic staff reported higher levels of occupational stress compared to administrative staff, primarily due to the pressures of academic performance. Another study carried out by Kinman & Jones[30] showed that there was significant difference in health status between academic and non-academic staff, it was highlighted that academic staff often lack sufficient administrative support and face higher job strain, which could negatively impact their health. Also, findings from a study[31] indicated that academic staff tend to work longer hours, often taking work home, which can lead to poorer health outcomes compared to non-academic staff who might

have more defined work hours. Conversely, a study in New Zealand conducted by Boyd & Wylie[32] had reported no significant difference in health status among the staff, with them indicating that stress levels could be similar across different job types within the same organization, pointing to organizational culture and policies as critical factors influencing health.

No significant difference was obtained in the disability profile between academic and non-academic staff. A possible explanation for this finding may be attributed to several factors such as, similar workplace accommodations, overall job safety standards and possibly similar lifestyle or healthy behaviours. This result is consistent with the findings of a study carried out by Schur et al.[33], who found no significant difference in the disability profile between academic and non-academic staff. However, this contradicts a study carried out by Carayon & Smith[34], this could be because different job roles can lead to varying levels of exposure to physical and psychosocial factors risk factors, which can influence disability rates.

Results further showed no significant difference in work-related quality of life between academic and non-academic staff. This could be due to a variety of factors, such as comparable access to institutional resources, similar levels of job support, and uniform policies affecting all staff members. This result is comparable to findings from a study carried out Houston et al.[35], which indicated that both staff can experience similar levels of job satisfaction and support, contributing to comparable WRQoL. However, this result contradicts the findings from a previous study that had reported significant difference in the work-related quality of life between academic and non-academic staff[29]. A possible explanation to this could be that academic staff often struggle more with work-life balance due to flexible and often unpredictable work hours, which can affect their WRQoL differently from non-academic staff.

CONCLUSION

There was significant association between work-related quality of life and each of health status and disability profile of staff of University of Ibadan, Nigeria. There was significant difference in health status between the academic and non-academic staff of University of Ibadan but there was no significant difference in their disability profile and work-related quality of life.

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Authorship

Dada: concept, design, the definition of intellectual content, data acquisition, data analysis, statistical analysis, manuscript preparation, manuscript editing and manuscript review.

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REFERENCES

1. National Center for Health Statistics: Health Status;2024. [cited Nov 13, 2024] Available from: https://www.cdc.gov/nchs/hus/topics/health-status.htm
2. World Health Organization. Disability and health, 2023. [cited Nov 15, 2024] Available from: https://www.who.int/news-room/fact-sheets/detail/disability-and-health
3. Latham K, Peek CW. Self-rated health and morbidity onset among late midlife U.S adults. J Gerontol B Psychol Sci Soc Sci. 2013;68(1):107-16. doi: 10.1093/geronb/gbs104, PMID 23197340.
4. Downs A, Wile N, Krahn G, Turner A. Wellness Promotion in Persons With Disabilities: Physicians' Personal Behaviors, Attitudes, and Practices. Rehabilitation Psychology. 2004 Nov;49(4):303.
5. Grant CA, Wallace LM, Spurgeon PC. An exploration of the psychological factors affecting remote e-worker's job effectiveness, well-being and work-life balance. Empl Relat.2013;35(5):527-46. doi: 10.1108/ER-08-2012-0059.
6. Almalki MJ, FitzGerald G, Clark M. Quality of work life among primary health care nurses in the Jazan region, Saudi Arabia: a cross-sectional study. Hum Resour Health.2012;10(1):30. doi: 10.1186/1478-4491-10-30, PMID 22971150.
7. Trivedi MH, Rush AJ, Wisniewski SR, Warden D, McKinney W, Downing M et al. Factors associated with health-related quality of life among outpatients with major depressive disorder: a STAR*D report. J Clin Psychiatry.2006;67(2):185-95. doi: 10.4088/jcp.v67n0203, PMID 16566612.
8. Santuzzi AM, Waltz PR. Disability in the workplace: A unique and variable identity. J Manag.2016;42(5):1111-35. doi: 10.1177/0149206315626269.
9. World Health Organization. WHO global disability action plan 2014-2021: better health for all people with disability.2015.[cited Nov 5, 2024] Available from: https://www.who.int/publications/i/item/who-global-disability-action-plan-2014-2021
10. Altman B, Bernstein A. Disability and health in the United States, 2001–2005. Hyattsville, MD: National Center for Health Statistics. 2008
11. Burke J, Bezyak J, Fraser RT, Pete J, Ditchman N, Chan F. Employers' attitudes towards hiring and retaining people with disabilities. Aust J Rehabil Couns. 2013;19(1):21-38.
12. Smith J, Brown A, Jones B. Unseen burdens: the prevalence of unrecognized disabilities in the workplace. J Occup Health Psychol.2018;23(2):201-15.
13. Ahmad S.Paradigms of quality of work life. J Hum Values.2013;19(1):73-82. doi: 10.1177/0971685812470345.

14. Rai GS. Improving quality of working life among home nursing staff. Int J Caring Sci.2013;6(3):380-91.

15. Wallace RA. National Disability Insurance Scheme, health, hospitals and adults with intellectual disability. Intern Med J.2018;48(3):351-9. doi: 10.1111/imj.13671, PMID 29512328.

16. Joseph-Shehu, E.M., Ncama, B.P. Evaluation of health status and its predictor among university staff in Nigeria. *BMC Cardiovasc Disord*18, 183 (2018). https://doi.org/10.1186/s12872-018-0918-x

17. Shigaki CL, Anderson KM, Howald CL, Henson L, Gregg BE. Disability on campus: a perspective from faculty and staff. Work.2012;42(4):559-71. doi: 10.3233/WOR-2012-1409, PMID 22523047.

18. Pıçakçıefe M, Akkaya V, Erbaş E. The prevalence of disability among health care workers and associated problems: A sample from Turkey. Nobel Medicus. 2021;17(1):30-38. https://www.nobelmedicus.com/tr/Makale.aspx?m=1694

19. Sulaiman SK, P K, Ibrahim AA, Nuhu JM. Musculoskeletal disorders and associated disabilities among bank workers. Int J Res Med Sci.2015;3(5):1153-8. doi: 10.5455/2320-6012.ijrms20150523.

20. Opollo JG, Gray J, Spies LA. Work-related quality of life of Ugandan healthcare workers. Int Nurs Rev. 2014;61(1):116-23. doi: 10.1111/inr.12077, PMID 24392719.

21. Moradi T, Maghaminejad F, Azizi-Fini I. Quality of working life of nurses and its related factors. Nurs Midwifery Stud. 2014 3(2):e19450. 25414904; PMCID: PMC4228533.

22. Schultz AB, Chen CY, Edington DW. The cost and impact of health conditions on presenteeism to employers: a review of the literature. Pharmacoeconomics. 2009;27(5):365-78. doi: 10.2165/00019053-200927050-00002, PMID 19586075.

23. Diener E, Chan MY. Happy people live longer: subjective well-being contributes to health and longevity. Appl Psychol Health Well-Being. 2011;3(1):1-43. doi: 10.1111/j.1758-0854.2010.01045.x.

24. Schur L, Kruse D, Blasi J, Blanck P. Is disability disabling in all workplaces? Workplace disparities and corporate culture. Ind Relat. 2009;48(3):381-410. doi: 10.1111/j.1468-232X.2009.00565.x.

25. Jovanović J, Šarac I, Jovanović S, Sokolović D, Govedarović N, Jovanović J. The relationship between occupational stress, health status, and temporary and permanent work disability among security guards in Serbia. Int J Occup Saf Ergon. 2021;27(2):425-41. doi: 10.1080/10803548.2019.1579458, PMID 30735105.

26. Jetha A, Gignac MA, Ibrahim S, Martin Ginis KA. Disability and sex/gender intersections in unmet workplace support needs: findings from a large Canadian survey of workers. Am J Ind Med.2021;64(2):149-61. doi:

10.1002/ajim.23203, PMID 33231897.

27. Adler NE, Ostrove JM. Socioeconomic status and health: what we know and what we don't. Ann N Y Acad Sci.1999;896(1):3-15. doi: 10.1111/j.1749-6632.1999.tb08101.x, PMID 10681884.

28. Abbasi M, Zakerian A, Akbarzade A, Dinarvand N, Ghaljahi M, Poursadeghiyan M, et al. Investigation of the relationship between work ability and work-related quality of life in nurses. Iran J Public Health.2017;46(10):1404-12. PMID 29308385.

29. Winefield AH, Jarrett R. Occupational stress in university staff. Int J Stress Manag.2001;8:285-98.

30. Kinman G, Jones F. "Running Up the Down Escalator": stressors and strains in UK academics. Qual Higher Educ. 2003;9(1):21-38. doi: 10.1080/13538320308162.

31. Gillespie NA, Walsh MH, Winefield AH, Dua J, Stough C.Occupational stress in universities: staff perceptions of the causes, consequences and moderators of stress. Work Stress. 2001;15(1):53-72. doi: 10.1080/02678370117944.

32. Boyd S, Wylie C. Workload and stress in New Zealand universities.1st ed.New Zealand: New Zealand Council for Educational Research;1994.

33. Schur L, Colella A, Adya M. Introduction to special issue on people with disabilities in the workplace. Int J Hum Resour Manag. 2016;27(14):1471-6. doi: 10.1080/09585192.2016.1177294.

34. Carayon P, Smith MJ. Work organization and ergonomics. Appl Ergon. 2000;31(6):649-62. doi: 10.1016/s0003-6870(00)00040-5, PMID 11132049.

35. Houston D, Meyer LH, Paewai S. Academic staff workloads and job satisfaction: expectations and values in academe. J Higher Educ Policy Manag.2006;28(1):17-30. doi: 10.1080/13600800500283734.