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Post-Pandemic Influences on Occupational Well-Being: Insights from a Higher Education Institution in Oman

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Abstract

Background: Globally, COVID-19 posed multifaceted challenges to the educational system, and employees were driven into completely unfamiliar territory. Assessing any residual impact that may influence employee well-being and productivity is vital. The objectives of the present study were to assess the impact of COVID-19 on the well-being of faculty and staff at the National University of Science and Technology, Oman & explore post-pandemic occupational well-being. **Materials and Methods:** 136 employees consented to participate in this study. The study design was cross-sectional, and convenient sampling was employed. The survey method involves item pooling from standardized scales, including the WHO Five Well-being Index, COVID-19 Stress Scale, Connor Davidson Resilience Scale and the WHO Quality of Life Questionnaire. Statistical methods, including correlation and regression analysis, were used.

Results: Results indicate that employees (67.7%) experienced stress and anxiety during the pandemic. The support provided by the administration (64.9%) and access to vaccination services (48.6%) primarily contributed to the well-being of staff members. Participant responses also indicated that overall well-being and resilience capacity were adequate following the pandemic. However, 23.4% of employees reported that they currently experienced negative feelings.

Conclusions: These findings reiterate that organizational interventions to reduce stress levels and enhance resilience and well-being are paramount.

Keywords: Well-Being, Employee Health, COVID-19

Introduction

The COVID-19 pandemic has posed unprecedented global challenges, greatly impacting lifestyle and mental health [1]. At the organizational level, the pandemic has resulted in implementing various modifications in the management and implementation of routine tasks [2]. The greatest challenge to the education sector was the closure of schools and higher education institutions and the immediate transition to online education [3]. Academic faculty and staff had to contend with campus closures, switching to online teaching and evaluation, and disruption of research [4].

Educators also have to adapt to a major occupational shift- from delivering in-person classes to engaging their students in an online environment, greatly increasing techno stress [5]. Research highlights the pandemic's adverse impact on educators' well-being [6]. During the pandemic, most faculty faced immense challenges regarding workload management, inadequate administrative support, and insufficient wellness opportunities [7]. Other factors included large class size, high workload, and out-of-work hours contact [8]. Faculty also reported a deceleration in opportunities for research, scholarship, and service that impacted their

career growth. There was also a concurrent unease of being unemployed [9].

Most administrative units present in higher education institutions include student affairs, registration, finance, information technology, learning resources, student counseling, hostel/residential facility, health clinics, transportation, and facilities management, etc., Though not considered 'essential workers', the contribution of administrative staff in higher education during the pandemic was paramount to the success of online education [9]. Though the global experiences of staff were not negative, most of them had to remodel their roles [10], thus adding to the stress experience. A major challenge for most staff was that the nature of their job roles did not accommodate remote work, and a hybrid system had to be incorporated [9].

The determinants of well-being commonly include quality of life, psychosocial satisfaction, and resilience capacity [11]. Occupational well-being is the ability to balance work and leisure that promotes health and satisfaction [12]. During the pandemic, academic staff reported that various occupational demands negatively impacted well-being. Thus, most individuals felt exhausted, isolated, stressed, and experienced burnout [8]. Cross-sectional associations between COVIDrelated stress and mental health symptoms have been reported in university faculty and staff [4]. However, studies have shown that the organisation's role, especially concerning perceived organizational support and supervisory support, was critical contributor to employees' well-being [13]. The resilience capacity of academic faculty was also a vital component of the well-being experience. This is reported by the emergence of new practices and learning as faculty encountered various challenges during the pandemic [14]. Research also indicates that vulnerabilities experienced by employees in higher education depend on the fulfillment of basic needs, trust and confidence, colleges' support, and responsible leadership [15]. The role of the organization is thus crucial to the overall experience of well-being by employees.

Research indicates that following the pandemic, lingering features of depression, anxiety, and sleep disturbances are common [16,17]. Addressing these that may greatly impact psychosocial factors occupational productivity is vital. Much current research is focussed on emerging trends in higher education following the pandemic, especially relating to teaching-learning and training modalities. However, a lacuna of literature highlights the post-pandemic wellbeing and psychosocial satisfaction of academic workers, which is a dominant area of concern [18]. Exploring this issue is vital to ensure the successful execution of organizational plans in higher education and positively impact the progressive transformation of teaching-learning.

The to retrospectively reflect on COVID-19's impact on the employees at the National University of Science and Technology, Sultanate of Oman, and the related organizational response. The objectives of the study were as follows: (1) To assess the post-pandemic occupational well-being of employees, (2) To ascertain the quality of life, psychosocial satisfaction, and resilience capacity of employees, and (3) To explore factors that contribute to the overall well-being of employees.

Materials and Methods

The National University of Science and Technology (NU), Sultanate of Oman, is a multi-campus university with three colleges- College of Medicine and Health Sciences, College of Engineering, and College of Pharmacy. All faculty and staff employed at NU were invited to be part of the study. Participants included faculty members from various academic departments from the colleges of Medicine and Health Sciences, Engineering, and Pharmacy. Staff (non-teaching employees) were from different academic support departments, including administration, finance, student support services, library, information technology services, hostel, and registration. The study was conducted on restoring normal educational activities during the academic year 2022-2023 (September 2022 to June 2023). The research design was cross-sectional, and the online survey method was employed for data collection. The contact information of participants was obtained from the institutional database. A convenient sampling method was used.

Tools Used: The survey used for the study was formulated using item pooling from the following standardized questionnaires:

WHO Five Well-being Index (WHO-5): The WHO-5 is a short, self-administered measure of well-being over the last two weeks. This study was conducted during the academic year 2022 to 2023, when normal educational activities, including in-person classes, were restored after the pandemic. Hence, the WHO-5 scale was used to assess the post-pandemic well-being of participants. The reliability index of this scale is 0.90. It consists of five positively worded items rated on a 6-point Likert scale, ranging from 0 (at no time) to 5 (all of the time). The raw scores are transformed to a score from 0 to 100, with lower scores indicating worse well-being. A score of ≤50 indicates poor well-being [19]. All items were included in the survey.

COVID-19 Stress Scale (CSS): The 36-item COVID Stress Scales (CSS) were developed to understand better and assess COVID-19-related distress. The scales were intentionally designed so they could be readily adapted for future pandemics and exhibited a reliability index of 0.93. The CSS was developed and validated in

population-representative samples from Canada (N = 3479) and the United States (N = 3375). A stable 5factor solution was identified, corresponding to scales assessing COVID-related stress and anxiety symptoms: (1) Danger and contamination fears, (2) fears about economic consequences, (3) xenophobia, compulsive checking and reassurance seeking, and (5) traumatic stress symptoms about COVID-19. The scales performed well on various reliability and validity indices [20]. The scales were intercorrelated, providing evidence of a COVID-19 Stress Syndrome. The scales offer promise as tools for better understanding the distress associated with COVID-19 and for identifying people in need of mental health services [20]. Six items from the CSS were included in the survey.

Connor Davidson Resilience Scale (CD RISC 2): The CD-RISC 2 is based on items 1 and 8 from the 25-item CD-RISC (score range from 0-8) and was developed as a measure of "bounce-back" and adaptability by the original authors exhibiting internal consistency of 0.80 [21]. Both test items were included in the survey.

WHO Quality of Life Questionnaire (WHOQOL-**BREF**): The WHOQOL-BREF is a 26-item instrument consisting of four domains: physical psychological health, social relationships, environmental health; it also contains quality of life and general health items. The reliability index of this scale is 0.91. Each item of the WHOQOL-BREF is scored from 1 to 5 on a response scale, which is stipulated as a fivepoint ordinal scale [22]. Four items that focussed on psychosocial satisfaction were included in the survey. In addition, three survey items developed by the researchers focussed on participant feedback on the availability and accessibility of mental health and wellbeing support services.

The total number of survey items was 20. Content validity for the final survey was established by three subject experts. The experts evaluated the survey items

to ensure adequate representation of the survey items against the study objectives. The feedback obtained from the subject experts was incorporated by the researchers and the survey was finalized.

Data obtained were analyzed using IBM's Statistical Package for Social Sciences version 25. Descriptive statistics were employed to analyze participants' responses to the survey items. Reliability analysis was carried out using Cronbach's alpha to assess internal consistency as the study's survey questionnaire was developed using item pooling. The study participants included faculty (teaching) and staff (non-teaching) from the higher education institution. The Mann-Whitney test was used to explore differences between these groups relating to the study variables. In addition, the Kruskal Wallis test was used to test differences within the groups (faculty and staff) related to age and gender. The Spearman's correlation method was employed to interpret associations between the study variables. Linear regression analysis and the Nearest Neighbour analysis were carried out to explore the strength of association.

Results

One hundred and thirty-six employees participated in the study. 72.8% (n=99) were faculty members and 27.2% (n=37) were staff (non-teaching) members. Results of the Shapiro-Wilk test for all survey items (p=0.000) indicate that participant's responses were not normally distributed. The Cronbach's Alpha reliability index for all survey items was 0.62, indicating adequate reliability for the survey items used.

The findings of the current study indicated that a majority of employees (67.7%) at the National University of Science and Technology (NU) reported that they experienced stress and anxiety during the pandemic, as shown in Fig. 1.

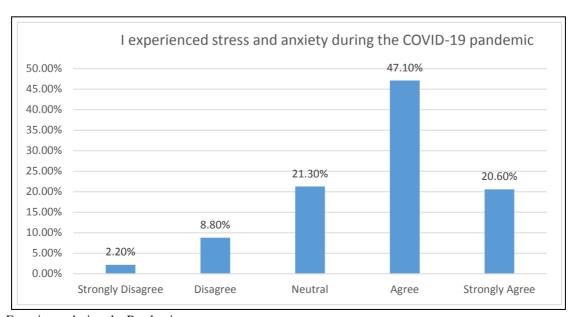


Fig. 1. Stress Experience during the Pandemic

As seen in Fig. 2, the most common contributing factors for faculty members included uncertainty about the duration of the pandemic (64.6%), fear of contracting the infection (50.5%), and drastic variation in activities of daily living when compared to the pre-pandemic

routine that they were accustomed to change in routine (50.5%). Staff members' common contributing stress factors included fear of contracting the infection (54.1%) and a major shift from normal routine activities (45.9%).

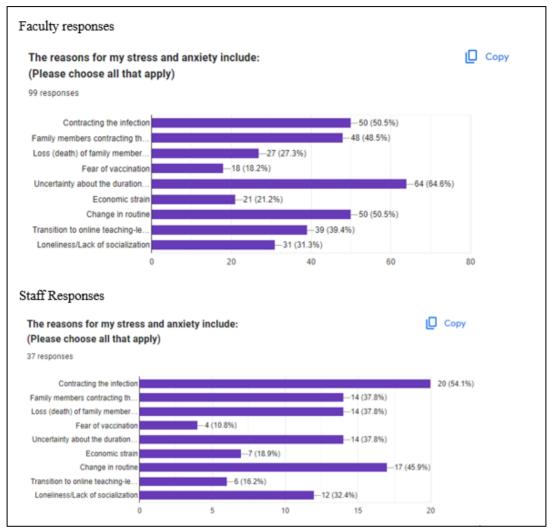


Fig. 2. Reasons for Stress Experience during the Pandemic

Role of NU in Providing Psychosocial Support: As portrayed in Figure 3 and Figure 4, results show that during the pandemic, regular updates and announcements provided by the university proactively contributed to the overall well-being of faculty (81.8%) and staff (64.9%). In addition, effective transition to online teaching (53.5%) with adequate training (43.4%),

access to vaccination services (46.5%), and administrative support (36.4%) contributed to the well-being of faculty members. The support provided by the administration (64.9%) and access to vaccination services (48.6%) primarily contributed to the well-being of staff members.

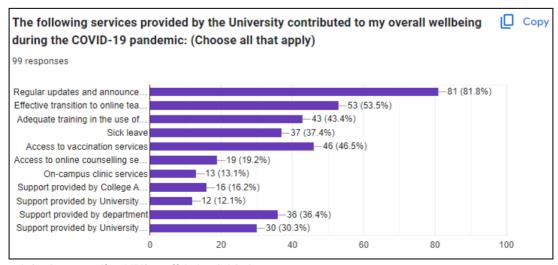


Fig. 3. Faculty satisfaction regarding NU's well-being initiatives

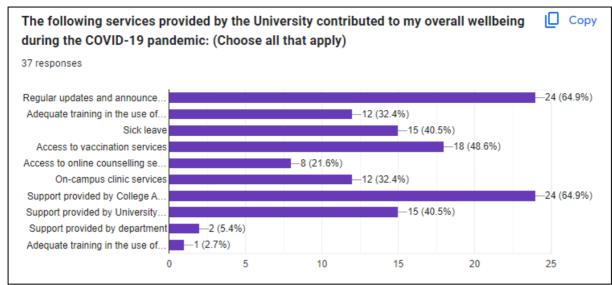


Fig. 4. Staff satisfaction regarding NU's well-being initiatives

COVID-19 Stress Experience- A Retrospective Analysis: Results indicate that all employees experienced pandemic-related stress. Overall scores on the COVID Stress Scale indicated that 81.60% of employees reported mild stress levels, 17.7% reported moderate stress levels, and 0.7% reported severe levels of COVID-related stress (after COVID regulations ceased). Around 50% of employees had difficulty concentrating because they kept thinking of the impact of the virus. In addition, 27.2% of employees had difficulty sleeping because they worried about the effects of the pandemic.

Post-pandemic Well-being Experience: The mean score of participants on the WHO-5 was 62.56, indicating adequate well-being. The mean score of all employees was more than 50 (max possible score of 100), indicating that overall well-being was presently adequate. Few participants, however, reported having challenges in feeling cheerful (25.8%), being calm and relaxed (29.4%), feeling active and vigorous (43.4%) and feeling fresh and rested (30.9%). 30.9% of employees reported disinterest in everyday activities.

Resilience Capacity: The participants' mean score on the Connor Davidson Resilience Scale was 5.79 (max possible score of 8), indicating moderate levels of resilience capacity. 94.8% of employees indicated that they can effectively adapt when changes occur, and 82.4% reported that they bounced back after hardships or challenging experiences.

Psychosocial Satisfaction: A majority of participants

were satisfied with personal relationships (89.7%), peer support (85.3%), and their capacity to work (87.5%). However, 23.4% of employees reported that they frequently experienced negative feelings, especially despair, anxiety, and depression.

Feedback on Counselling Services: 55.1% of employees reported that they would like on-campus counseling services for faculty and staff. 11% of participants stated that they had attended professional counseling services (outside the university) during the pandemic. 14.7% of employees stated that they currently require counseling and psychological support to cope with their mental health needs.

Inter-domain Analysis: Results of the Mann-Whitney test indicated significant differences among faculty and staff about satisfaction with psychosocial support (p=0.022) and access to on-campus counseling services (p=0.018). Compared to staff, faculty experienced marginally higher satisfaction levels related to psychosocial support but had comparatively lower satisfaction regarding employee access to on-campus counselling services. Results indicated no significant differences among survey domains based on nationality or gender. Results of the Kruskal Wallis test indicated that employees in the age group of 21-30 years experienced slightly higher dissatisfaction regarding psychosocial support (p=0.020) when compared to employees of other ages. There were no significant differences in survey domains relating to specific colleges.

Table 1. Inter-domain correlation

	COVID Stress	Well-being Index	Resilience	Psychosocial Satisfaction	Feedback on Counselling Services
COVID Stress	1.000	280**	196 [*]	113	.222**
Well-being Index	280**	1.000	.331**	.301**	226**
Resilience	196 [*]	.331**	1.000	.297**	245**
Psychosocial Satisfaction	113	.301**	.297**	1.000	093
Feedback on Counselling Services	.222**	226**	245**	093	1.000

st. Correlation is significant at the 0.05 level (2-tailed).

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Results of the Spearman's test for correlation, as shown in Table 1 indicate that COVID-19-related stress was negatively correlated to overall well-being, resilience capacity, and satisfaction with psychosocial support. The stress experience of employees was also related to the access to/satisfaction with counselling services. The well-being of participants was positively correlated to

resilience capacity. The results of linear regression were not significant. However, the Nearest Neighbor Analysis, as portrayed in Figure 5, indicates that the closest predicting factors to overall well-being are resilience capacity, satisfaction with psychosocial support, and experience of COVID-related stress.

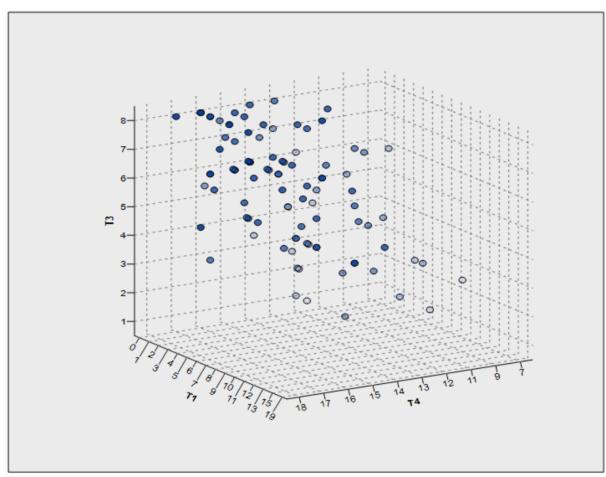


Fig. 5. Predictors to employees' well-being

Discussion

The pandemic has propelled educational institutions into an unknown and challenging territory, and while many studies have been conducted to study the impact on students, the impact on teachers and academic staff has been minimal. Though university-centric, the results of the current study provide valuable insights into the understanding of various factors that contributed to employee coping during the pandemic and their present well-being experience, thus aiding in the comprehension of the existing organizational climate.

Experiencing stress during the pandemic was a global phenomenon. The stress levels experienced by the employees at NU were similar to educators worldwide [23]. Literature also indicates that university faculty experienced higher levels of stress when compared to schoolteachers [24]. This may be attributed to the challenge faced by college faculty to offer skill-based training through the online mode. The most common stressors during the COVID pandemic were concern for one's health and economic factors [25]. In addition, participants in this study reported that a drastic change

in routine was also a major stressor. This may be attributed to the occupational shift to online teaching-learning. Several studies on the impact of the COVID pandemic suggest that changes in routine and eventual increases in workload in the field of education negatively impacted increased stress [26].

Research also indicates that COVID-19 has greatly impacted the mental health of individuals [27]. Most employees at NU reported having experienced mild levels of stress during the pandemic. Participants reported that the organizational support received during the pandemic enhanced effective coping. While other studies indicate a lack of institutional support during the pandemic, especially work-life imbalance, unmet support needs [7], and reactive leadership [15], the leadership at NU ensured that a supportive, proactive system was in place to address and meet employee needs. Adequate training provided to transition to online platforms, accessibility to vaccination services, and regular updates greatly contributed to efficacious coping and employees' sense of well-being during the pandemic. Research into employees' response to organizational change during COVID highlights the role of effective communication as an important coping resource for employees, eventually reducing stress and ensuring well-being [28]. The findings of our study also highlight the importance of substantial information during times of uncertainty. This highlights organizational support's vital role in greatly impacting employee productivity and satisfaction. Effective policies, supportive administration and positive environment play a key part in achieving success during uncertain times. This is seen in the NU students' satisfaction survey results that indicated adequate satisfaction levels with teaching-learning modalities during the pandemic.

Post-pandemic mental health concerns are considered the secondary tsunami to the pandemic [29]. Studies indicate that though mild features of depression and anxiety persist [30], high-stress levels are frequently reported [31]. A majority of employees at NU currently adequate well-being and psychosocial satisfaction. In addition to the proactive organizational response, another mediating factor for successful coping and current well-being may be attributed to the adequate resilience capacity reported by employees. The role of resilience in coping with the negative impact of the pandemic is also highlighted in other studies [32, 33]. Research has shown that among the factors that reduce negative feelings are close family and social relationships, workplace support, and perceptions of self-efficacy [34]. Strong predictors of occupational well-being include organizational response and individuals' resilience capacity.

However, around 23% of participants in this study reported that they presently experienced negative feelings. This may be attributed to the lingering impact of the pandemic. In addition, most employees at NU reported the need for on-campus well-being and counseling services. These findings highlight the importance of creating supportive and meaningful wellbeing spaces on campus. In addition, organizational interventions to reduce stress levels and enhance resilience and well-being are paramount. Research indicates the establishment of employee assistance programs, encouraging work-life balance, fostering a connection with the community, and providing flexibility [27]. These recommendations are directly related to United Nations Sustainable Development Goal No. 3 [35] and Oman's National Health Policy [36].

The limitation of the present study was that it was single-centered and conducted only at one higher education institution. The study may be extended to other regional higher education institutions for comparison. However, the insights obtained from the present study provide practical recommendations for implementing holistic well-being opportunities for employees.

Conclusion

The current study's findings highlight the vital role of the organizational response as a key contributing factor to employee well-being. Also, employees' access to well-being services is important to ensure well-being. As seen in the study, though employees experienced stress and anxiety during the pandemic, their personal resilience capacity was instrumental to post-pandemic well-being. It is, therefore important to incorporate futuristic well-being measures for employees to involve a holistic approach. It is vital to consider the Strengthening of campus counseling services, initiation of campus-based Well-being Hubs (with a holistic perspective), and Skills development training programs to enhance resilience and coping.

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Conflict of interest

None declared.

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Ethical Considerations

Participant information was kept confidential. All participants voluntarily participated in the study.

Ethical approval

It should be noted that this article was approved by the Research Assistant of Medical Sciences under IR.QUMS.REC.1401.328 and contract number 28.20.24074.

Authors' Contributions

Miriam Simon: Study conception and design, Data collection and analysis, Manuscript preparation and review. Aliza Batool: Study conception and design, Data collection, Manuscript review. Trinette Fernandes: Study conception and design, Data collection, Manuscript review

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