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Impact of Transition to Online Teaching on the Work-Life Balance and Mental Health of Lecturers in a Medical University

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Introduction: The COVID-19 pandemic in 2020 resulted in a complete lockdown of educational institutions in Malaysia necessitating an immediate shift from conventional face-to-face teaching to online teaching-learning (OTL). This invariably affected the work-life balance and mental health of medical lecturers. This study was done to assess the adequacy of training of lecturers to conduct OTL and the challenges faced, and the impact of transitioning to OTL on the work-life balance and mental health of medical lecturers. The mental health status of lecturers was compared according to age categories of Gen-X, Gen-Y and Baby Boomer (BB) generations. **Methods**: An online survey was conducted between August and October 2021. Participants were asked to answer a series of questions designed to assess adequacy of training received, impact on work life balance, and score themselves with validated scoring tools to assess for anxiety, depression, and stress levels. **Results**: A total of 179 lecturers participated in the study. Training for OTL was deemed to be adequate and prepared the lecturers well for OTL. The transition to OTL negatively disrupted work-life balance causing extra work hours, disruption to family life, sleep issues, exhaustion, and stress but were positive in many other aspects. Gen-X and Gen-Y lecturers had higher perceived stress compared to BB. **Conclusions**: Transitioning to online teaching during COVID-19 pandemic impacted work-life balance positively and negatively. Moderate to high perceived stress were reported, especially among younger lecturers. Training to equip lecturers to conduct online teaching and support for mental health and wellbeing should be provided.

Keywords: *COVID-19 pandemic, mental health, online teaching, work-life balance, medical lecturers.*

INTRODUCTION

In March 2020, to arrest the rapid spread of COVID-19 in Malaysia, the Ministry of Education of Malaysia abruptly announced the closure of all institutions of higher learning in the country with a directive to immediately transition to online teaching and learning (OTL). Initially caught off guard, most institutions of higher learning immediately responded by investing heavily into procuring the necessary technology for OTL delivery and providing support and training to its lecturers to embrace a new way of teaching.

Work-life balance is defined as equilibrium or an overall sense of harmony in work and private life.[1] Poor work-life balance is associated with poor psychosocial well-being.[2] The intersection of mental health, work-life balance, and OTL is a critical area of research, especially with the increasing prevalence of online education during and post COVID-19 pandemic. The sudden transition to OTL has created additional challenges for both teachers and students. Although online learning can enhance work-life balance for students compared to traditional classroom settings, as it provides flexibility that helps manage personal and professional responsibilities, several studies have reported the challenges experienced by tertiary level medical and non-medical students including suboptimal adherence to online classes, lower satisfaction scores, lower quality of life scores and poorer psychological health manifesting as anxiety, depression and stress.[3-5] Similarly, educators at all levels of education reported challenges from transitioning to OTL including frequent and unpredictable changes in time-tabling, extra workload, dismantling of work-life distinction, and emotional issues that threatened their

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work-life balance and mental health.[6-11] In addition, students and educators alike reported issues with OTL including the lack of interaction and engagement, challenges in adapting to technology, problems with assessment and feedback from students, poorer mental health, and the quality of education.[8,9]

Theories connecting mental health and work-life balance to online teaching and learning primarily centre around the concept of "spillover", where the blurred boundaries between work and personal life in online teaching can negatively impact mental health due to the lack of clear separation between work and personal time. This is particularly exacerbated by factors like constant accessibility to students via digital platforms, irregular working hours, and the need to manage a virtual learning environment.[12-14]

Key theories explaining this connection include the Work-Family Theory, where demands from work clash with demands from family, leading to stress and conflict; the Role Strain Theory, where conflicting role expectations, which can occur in OTL when educators are expected to be constantly available to students while also managing personal responsibilities; the Demand-Control Model where teachers are pressured by the need to constantly adapt to new technologies and cater to diverse student needs while conducting OTL leading to burnout; and the Social Isolation Theory where the lack of face-to-face interaction with OTL can result in feelings of social isolation and disconnection from colleagues, thus contributing to mental health concerns.[12-16]

Mitigating strategies include setting clear boundaries through set working hours, using dedicated workspace, and communicating availability to students; providing adequate training on online platforms and tools to educators to reduce technical stress; and a supportive work culture where open communication, collaboration and access to mental health resources are promoted.[12-17]

In the context of medical education, we found only one study that specifically focused on mental health and quality of life among medical teachers which reported them experiencing high stress levels from transitioning to digital e-learning methods during the COVID-19 pandemic.[11]

We conducted this study approximately 18 months from March 2020 to assess the impact of transition to OTL on the work-life balance and the mental health status of lecturers at a private medical university in Malaysia. At the time, all teaching and learning activities were conducted online. We also compared the impact of transition to OTL on the mental health status of lecturers across three different age categories, namely the Gen-Y, Gen-X and the Baby Boomers.

METHODS

Objectives

The study had three objectives:

1. To determine the adequacy of training received for OTL and the challenges faced by lecturers while conducting OTL
2. To assess the impact of transition to OTL on the work-life balance of lecturers
3. To assess the impact of transition to OTL on the mental health status of lecturers from different age generations

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Study design, setting and sample size calculation

A cross-sectional online survey was conducted between August to October 2021 at the International Medical University (IMU), a private medical university in Malaysia. The eligibility criteria for this study were full time and part time lecturers in IMU fluent in English language. At the time of the survey, there were 381 lecturers of which 335 were full time and 46 were part time lecturers. Assuming 20% non-response to participate in the survey, with 5% error and 95% confidence interval, the required sample size was 170.

Survey tool

After obtaining institutional ethical approval a cross-sectional online survey consisting of four parts was created using Google Form and distributed. The first part contained questions to collect demographic data including age, years of being educators, marital status, and dependents. The second part contained questions focusing on training received to prepare for online teaching, lecturers' satisfaction with the training received and challenges experienced with conducting online teaching. The third part contained questions adapted from the Quality of Work-life Questionnaire developed by the National Institute for Occupational Safety and Health (NIOSH).[18] The last part contained the Patient Health Questionnaire-9 (PHQ9), General Anxiety Disorder-7 (GAD7) and Perceived Stress Scale (PSS) questionnaires which are validated. Tools designed to assess mental health status by screening for the presence and severity of depression, anxiety, and stress, respectively.[19-21] Recruitment of participants were done via email invitation to the lecturers' university email accounts. Participation was voluntary and pre-participation consent was obtained online.

Statistical analyses

Descriptive statistical methods were used to describe the sociodemographic characteristics and the lecturers' experience with online teaching. Participants were categorised into Generation Y (born 1981-1996), Generation X (born 1965-1980) and Baby Boomers (born 1946-1964) based on their year of birth. The one sample t-test was used to analyse the significance of challenges related to online teaching, and whether further training in OTL would be beneficial. The chi-square test was used to determine the impact of sudden transition to OTL on the mental health status of lecturers; and to assess if there were statistically significant differences between the different age categories of lecturers. A p value of <0.05 with 95% confidence interval was considered statistically significant. All statistical analyses were conducted using the SPSS Version 20.0 (SPSS Inc, Chicago, IL).

RESULTS

Socio-demographic characteristics of respondents.

A total of 179 lecturers participated in this study. The mean age was 47 years (median 44 years, range 26 – 77 years). Most of the lecturers belonged to the Gen-Y (38.5%) and Gen-X age-categories (40.2%). The mean duration of being a lecturer was 6.87 years (range 0 – 25 years). Most of the lecturers were married (79.3%) and had three or less dependents at home. Most of the lecturers (91.1%) had prior involvement in face-to-face (f2f) teaching. The mean duration of online teaching per lecturer at the time of survey

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was 16.3 months (median 18 months, range 0 – 25 months). Most of the lecturers (84.9%) had received professional development or training related to online teaching with 60.3% of them having received training after they had started teaching online. Most (72.6%) had received some training on online teaching less than six months prior to the survey. The details are shown in Table I.

Table I: Socio-demographic characteristics and training received for OTL (N = 179)

SOCIO-DEMOGRAPHIC CHARACTERISTIC	FREQUENCY	PERCENTAGE
Age category*		
Generation Y (1981 – 1996)	69	38.5
Generation X (1965 – 1980)	72	40.2
Baby Boomers (1946 – 1964)	38	21.3
Marital status		
Single	35	19.6
Married	142	79.3
Prefer not to say	2	1.1
Number of dependents at home		
3 or less	123	68.7
> 3	56	31.3
Pre-pandemic face-to-face teaching experience		
Yes	163	91.1
No	16	8.9
Received professional development or training related to online teaching	152	84.9
When was the training received?		
Did not receive any	15	8.4
Prior to becoming a lecturer	6	3.4
Prior to teaching online	50	27.9
Received after teaching online	108	60.3
When was the most recent professional development/ training in online instruction received?		
< 6 months	130	72.6
6 – 12 months	36	20.1
> 12 months	13	7.3

Adequacy of professional development or training related to online teaching received.

Most of the lecturers agreed the professional development or training related to online teaching received was adequate to prepare them well to teach online ($p < 0.001$), were satisfied with the training received ($p < 0.001$) but felt they would still benefit from more training ($p < 0.001$). The details are tabulated in Table II.

Table II:
Adequacy of professional development or training related to online teaching received (N = 179)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	p-value*
The training prepared me well to teach online	7	7	48	96	21	3.65	< 0.001
I am satisfied with training received	5	9	56	93	16	3.59	< 0.001
I would benefit from additional training	6	7	25	100	41	3.91	< 0.001

* *One-sample Student t-test with test value of 3 (neutral)*

Challenges faced by lecturers related to the conduct of online teaching

Most of the lecturers faced significant challenges in conducting online teaching, from navigating the technology to encouraging interaction online. The challenges are tabulated in Table III.

Table III: Challenges related to the conduct of online teaching

Challenges faced	To a great extent	To some extent	To a small extent	Not at all	Mean	p-value*
Navigating technology	20	100	50	9	2.27	< 0.001
Using collaboration tools	29	114	24	12	2.11	< 0.001
Helping students with technology	17	88	59	15	2.40	< 0.001
Keeping up with changing technology	41	98	32	8	2.04	< 0.001
Supplementing content for online courses	18	101	50	10	2.29	< 0.001
Assessment of students online	34	96	42	7	2.12	< 0.001
Isolation from other colleagues	38	76	56	9	2.20	< 0.001

Time management	36	81	55	7	2.18	< 0.001
Balancing of workload	54	79	39	7	1.99	< 0.001
Interaction with students	53	87	27	5	1.91	< 0.001
Getting students to interact with each other	80	75	11	6	1.67	< 0.001

* *One-sample Student t-test with test value of 3 (to a small extent)*

Impact of transition to online teaching on work-life balance

The various aspects of work-life balance impacted by transition to online teaching are tabulated in Table IV.

Table IV: Impact on work-life balance from transition to online teaching (N = 179)

IMPACT OF TRANSITION TO ONLINE TEACHING	FREQUENCY	PERCENTAGE
Worked extra hours		
Yes	152	84.9
No	27	15.1
Had more flexible working hours		
Yes	135	75.4
No	44	24.6
Interference with family/home life		
Often or sometimes	145	81.0
Rarely or never	34	19.0
Adequate support/equipment for online teaching		
Yes	136	76.0
No	4	24.0
Adequate knowledge of how to conduct online teaching		
Yes	138	77.1
No	41	22.9
Freedom to decide ways to conduct online teaching		
Very true or somewhat true	144	80.4
Not too true or not true at all	35	19.6

Adequate time to prepare for online teaching		
Very true or somewhat true	126	70.4
Not too true or not true at all	53	29.6
Access to stress management or reduction in the university		
Yes	104	58.1
No	75	41.9
General health		
Good to excellent	147	82.1
Fair or poor	32	17.9
Poor		
Frequency of sleep problems in last 12 months		
Often or sometimes	124	69.3
Rarely or never	55	30.7
Days of poor physical health in the past 30 days		
< 1 week	167	93.3
1 – 4 weeks	12	6.7
Frequency of feeling stressed at work		
Often to always	72	59.8
Never to sometimes	107	40.2
Days of poor mental health in the past 30 days		
< 1 week	152	84.9
1 – 4 weeks	27	15.1
Days of usual activities affected by poor physical or mental health in the past 30 days		
< 1 week	159	88.8
1 – 4 weeks	20	11.2
Frequency of feeling exhausted at the end of the day in the past 30 days		
Often or sometimes	87	48.6
Rarely or never	92	51.4
Satisfaction with transition to online teaching		
Somewhat to very	149	83.2
Not so to not at all	30	16.8

Anxiety, depression, and perceived stress scores according to age categories

The anxiety, depression, and perceived stress scores according to age categories are shown in Table V. Most of the lecturers had low anxiety scores (n = 111, 62%), and low depression scores (n = 106, 59.2%). However, a large proportion of lecturers (n = 118, 65.9%) had moderate to high perceived stress scores. When compared with Baby Boomers, Gen-X and Gen-Y lecturers had higher perceived stress scores (69.4% versus 34.2%, p < 0.001 and 79.7% versus 34.2%, p < 0.001, respectively). In addition, Gen-Y lecturers had higher anxiety and depression levels compared to Baby Boomers (17.4% versus 0%, p = 0.006 and 21.7% versus 5.3%, p = 0.026, respectively) while there were no statistically significant differences in the anxiety and depression scores between Gen-X and Baby Boomers. Regression analysis showed age categories, marital status, number of dependents, and pre-pandemic f2f teaching experience were not predictors for anxiety, depression, and stress scores.

Table V: Anxiety (GAD7), Depression (PHQ9), and Perceived Stress (PSS) scores

GAD7 SCORES	None to low risk or mild	Moderate – severe	p-value
Age category			
Gen Y	57 (82.6%)	12 (17.4%)	0.006*
Gen X	67 (93.1%)	5 (6.9%)	0.096*
Baby Boomers	38 (100%)	0 (0%)	
PHQ9 Scores	None – mild	Moderate – severe	
Age category			
Gen Y	54 (78.3%)	15 (21.7%)	0.026*
Gen X	62 (86.1%)	10 (13.9%)	0.168*
Baby Boomers	36 (94.7%)	2 (5.3%)	
PSS Scores	Low	Moderate – high	
Age category			
Gen Y	14 (20.2%)	55 (79.7%)	< 0.001†
Gen X	22 (30.6%)	50 (69.4%)	< 0.001†
Baby Boomers	25 (65.8%)	13 (34.2%)	

** Chi-square test, none+mild versus moderate+severe; Baby Boomers as comparator*
† Chi-square test, low versus moderate-high; Baby Boomers as comparator

DISCUSSION

When the COVID-19 pandemic forced the closure of all educational institutions in Malaysia in March 2020, an immediate shift from conventional f2f teaching to distance learning using online platform was the response by IMU to ensure the continuation in students' education and to minimise disruptions to curriculum delivery. Teaching and learning activities in IMU resumed completely online within two weeks from the closure of its physical campuses. At the time of this study, all teaching and learning activities were conducted online. From the beginning, IMU had invested heavily into acquiring safe and secure digital platforms and digital hardware, and the provision of intensive online workshops and courses to equip its lecturers with the technological know-how of conducting OTL sessions.

At the time of survey, most of the lecturers in IMU had received professional development or training and felt that they were well prepared by the training received to conduct OTL activities although more training was felt to be beneficial (Table II). Despite this, they reported experiencing significant challenges in navigating technology and using collaborative tools, helping students with technology, keeping abreast with the rapid changing nature of technology, creating OTL contents, online assessment of students, encouraging interactions with students, grappling with a sense of isolation from colleagues, time management and balancing workload (Table III). These challenges appear to be universal as other studies on educators at all levels of education have reported similar findings.[4-7,10,22]

The impact of transitioning to OTL on work-life balance was largely positive with lecturers reporting having more flexible work hours, receiving adequate support from the University to conduct OTL, possessing adequate knowledge to conduct OTL, freedom to decide on how to conduct OTL, having adequate time to prepare for OTL, access to stress management in the University, good to excellent level of general wellbeing and mental health, and satisfaction with the transition to online teaching. On the flip side, lecturers reported having to work extra hours, interference with family life, sleep issues within the last 12 months, feeling exhausted at the end of the workday, and feeling stressed at work. This is a good reflection of the IMU's efforts to support and help their lecturers adapt to changes. Providing support to staff both physically and mentally is an employer's prerogative which can result in increased productivity, reduced non-engagement, and morale boost.[23] This is more pertinent within the context of a restrictive work environment during the pandemic.

Generally, most of the lecturers in our study had low anxiety and depression scores. On the other hand, most of the lecturers in the Gen-X and Gen-Y age categories had moderate to high perceived stress scores. In contrast, most lecturers who were Baby Boomers had low perceived stress scores. The stress levels experienced by the lecturers in our study are comparable with another study on 322 medical lecturers by Tilwani *et al,* conducted approximately 14 months from the total shutdown of educational institutions in India. In this study, around 76% of lecturers had mild-to-moderate degrees of stress but none with severe stress when teaching remotely.[11]

When compared with lecturers who were Baby Boomers (age 57 – 75 years old), the most striking findings were the statistically significant higher levels of anxiety, depression, and perceived stress experienced by Gen-Y lecturers (age 25 – 40 years old) and Gen-X lecturers (age 41 – 50 years old). This is supported by studies which showed people from younger age groups tend to experience more stress compared to those from the older age groups.[24-25]

Baby Boomers are more successful at coping with stress as they tend to be more flexible and willing to compromise to lifestyle changes, can adjust towards life expectations and are more likely to express feelings in their relationships rather than bottling them up. In contrast, younger people are less inclined to embrace stress management strategies despite being aware of their importance and tend to turn to unhealthy activities such as smoking and drinking alcohol to cope with stress.[25] The difference in stress levels may also be related to the different sources of stress among generations; relationships are particularly more problematic for younger adults, the increased restrictions to face-to-face interactions and the new social norm of being expected to be successful at an early age.[25] In the context of stress related to OTL, Baby Boomers may be more senior in academic positions with less teaching obligations but more administrative work compared to Gen-X and Gen-Y lecturers who have more teaching obligations, and equal or less administrative work which may explain the higher stress scores of the latter.

There were several limitations in our study. We did not consider the possibility of other factors, such as financial difficulties or gender, that may be associated with additional stress, anxiety, and depression.[11] We did not investigate the possibility of lecturers with pre-existing mental health issues which may or may not be treated.

Our study revealed that despite receiving adequate training and support from the University, lecturers especially the younger lecturers reported significant levels of perceived stress transitioning from conventional face-to-face teaching to OTL during the COVID-19 pandemic. Proper counseling services should be available to support the mental health and well-being of lecturers. Intensive promotion of stress-relieving measures including regular leisure-time exercise of any intensity, encouraging daily communication with close family, friends and colleagues, introduction of yoga and music therapy, time management, positive coping strategies and realistic work expectations should be advocated by the University to its lecturers.[26]

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