



Assessment of Quality of Life, Sleep Quality in IT Professionals Doing Work from Home in Covid19 Pandemic.

Smita Ajaykumar Shinde¹, Aditi Nitin Patil², Sunita Shailendra Ingale³

1 Professor, Department of Physiology, Bharati Vidyapeeth (Deemed to be University) Medical College and Hospital, Sangli

2 Associate Professor, Department of Pharmacology, Bharati Vidyapeeth (Deemed to be University) Medical College and Hospital, Sangli

3 Associate Professor, Department of Physiology, Bharati Vidyapeeth (Deemed to be University) Medical College and Hospital, Sangli.

Corresponding Author:

Dr Smita Ajaykumar Shinde

Professor, Department of Physiology, Bharati Vidyapeeth (Deemed to be University) Medical College and Hospital, Sangli.

(Received: 16 March 2025)

Revised: 20 April 2025

Accepted: 15 June 2025)

KEYWORDS

COVID-19 pandemic, Work from Home (WFH), IT professionals, Quality of Life (QOL), Pittsburgh Sleep Quality Index (PSQI), Sleep quality.

ABSTRACT:

Background: The COVID-19 pandemic has led to widespread adoption of Work from Home (WFH) among IT professionals, significantly impacting their lifestyle, quality of life (QOL) and sleep quality. Understanding these changes is critical to inform organizational and health interventions.

Objectives: To assess the quality of life, sleep quality and patterns in IT professionals engaged in WFH during the COVID-19 pandemic.

Methods: A cross-sectional study was conducted among 67 IT professionals selected using snowball sampling. Data were collected using validated tools including the Quality-of-Life Scale (QOLS) and the Pittsburgh Sleep Quality Index (PSQI). Descriptive statistics were used to analyze socio-demographic variables, QOL scores, and sleep patterns.

Results: The majority of participants were aged 20–30 years (44.8%), and 71.6% were male. Most were married or living with a partner (59.7%) and had been working from home for 7–12 months (29.9%) or ≥ 36 months (26.8%). High levels of perceived workload (level 4 reported by 50.7%) were noted. QOL was rated positively, with mean total QOLS of 79.19 ± 15.801 . Domains with the highest mean scores included material well-being (5.78 ± 1.139), relationship with relatives (5.67 ± 1.211), and occupational role (5.55 ± 1.271). Regarding sleep quality, 58.2% had a global PSQI score ≤ 5 , indicating good sleep quality, while 41.8% showed potential sleep disturbances. Notably, 85.1% reported optimal sleep efficacy, though issues were observed in subjective sleep quality and sleep-related daytime dysfunction.

Conclusion: IT professionals working from home during the COVID-19 pandemic exhibited overall good quality of life, though a significant proportion experienced sleep disturbances and high perceived workload. Targeted interventions to support sleep hygiene are warranted.

INTRODUCTION

In 2020, the COVID-19 crisis had demanded a sudden change in work organizations and their employees had to adapt working from home. This was

profoundly evident among Information & Technology professionals.¹ Teleworking defined as ‘work carried out at location where remote from central offices and production facilities, worker has no personal contact with co-workers there but is able to communicate with them using new technology.’² By facilitating



teleworking from home, information, and communication technologies (ICTs) have played a crucial role in improving the global economic activities and hence enabling a significant portion of individuals to earn their livelihood. Teleworking rates during the pandemic were higher among workers in large firms than in small ones, reflecting lower digital uptake among small firms and their specialization in activities less amenable to remote working.¹

The global data on Organization for Economic Co-operation and Development (OECD) countries had found the high rates of teleworking states of 50% each in United Kingdom and United States in a cross-sectional academic study by Galasso and Foucault.¹ According to Gupta et al, the Indian economy functioned at only 49–57% of its full activity which led to heightened anxiety among employers regarding the future organizational functioning and among their employment security and productivity.³

Work From Home (WFH) or teleworking offers many benefits like better balance of work and home life, increased flexibility, reduced overheads for employer, reduction in commuting, increased productivity, more satisfaction, contentment.⁴ But it has many disadvantages like social isolation, presenteeism - working for long hours, working when sick, lack of support, career progression, blurring of boundaries between work and home can be stressful and leads to decreased productivity.^{2,5} Lack of boundaries between work and home leads to long working hours which will lead to sleep problems, tiredness at work, difficulty in waking up, work family conflict, lower life, and job satisfaction, reduced psychological well-being, reduced perceived health and happiness and decreased self-reported work performance.^{6,7}

Negative perceptions of WFH may be influenced by various factors such as gender, marital status, number of children, age, and distance from house to office. Additionally, the level of organizational support and available facilities, including technical, financial, human, and professional resources, can also play a significant role.⁸ Childcare duties, and unequal gender role division of paid vs. housework may hamper the potential benefits of increased schedule flexibility when WFH.⁹

Some studies found that WFH was associated with a reduction in sleepiness and improvement in

mood, especially in younger participants without children.⁸ WFH also leads to Poor sleep quality and insufficient sleep duration which are linked to increased risk of death due to their association with obesity, hypertension, diabetes mellitus, and cardiovascular disease.¹⁰

There was a lack of information on the relevance of teleworking in the pre- COVID era in existing literature to suggest it as an alternative for working professionals and its effect on their overall health. As we know, the teleworking rates were increased in the pandemic era and hence people started working from remote locations. Hence, this study was conducted to assess the quality of life and sleep quality in IT professionals doing work from home in COVID19 pandemic.

Material and Methods:

This was a cross-sectional study conducted in Bharati Vidyapeeth (Deemed to be University) Medical College and Hospital, Sangli after obtaining Institutional Ethical Committee clearance. The snowball sampling technique was used to select the study sample from the IT professionals working in Pune City who were doing Work from Home for at least the last 6 months were included. Any individual who had major systemic illness, endocrine disorder, any acute or chronic condition affecting sleep, current use of hypnotic drugs or drugs which may affect quality of sleep, psychiatric disorder or on its treatment, those having menopausal symptoms, any other sleep disorder during study were excluded. Written informed consent was obtained prior to inclusion.

67 IT Professionals who fulfilled the inclusion criteria were included in the study. Data was collected using a questionnaire. Multiple questionnaires were used to assess certain parameters such the quality of life (QOLS) and subjective sleep assessment using Pittsburgh Sleep Quality Index Scale (PSQI). Collection of data was done by asking them to fill up Google forms of proforma and questionnaires.^{11,12,13}



Quality of Life Assessment: Quality of life was evaluated using the **Quality-of-Life Scale (QOLS)**, a widely used instrument developed to measure overall well-being across various life domains. The QOLS consists of **15 items**, each rated on a 7-point Likert scale, where responses reflect the individual's satisfaction or fulfillment in different aspects of their life. This tool assesses five key conceptual domains:

1. **Material and Physical Well-being** – This includes satisfaction with health, financial stability, and physical safety.
2. **Relationships with Other People** – Evaluates the quality and satisfaction of interactions with family, friends, and other close relationships.
3. **Social, Community, and Civic Activities** – Involves engagement in community roles, volunteer work, or participation in local organizations and cultural events.
4. **Personal Development and Fulfillment** – Reflects an individual's sense of personal growth, achievement, and purpose in life.
5. **Recreation** – Measures involvement in leisure activities and enjoyment derived from hobbies or relaxation.

Each item on the scale is scored from **1 (very dissatisfied)** to **7 (very satisfied)**. The total QOLS score is calculated by summing the scores for all 15 items, with **higher total scores indicating a better quality of life**.

Sleep Pattern & quality assessment: It was assessed by using Pittsburgh Sleep Quality Index. The PSQI allows assessment of sleep disturbances along seven dimensions: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication & daytime dysfunction. Each dimension is rated on four-point scales which are summed to yield a global score. PSQI A total score of '5' or greater indicates poor sleep quality.^{12,13}

Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software and Epi-info version 7.2.1 (CDC Atlanta) software. Categorical data was represented in the form of Frequencies and proportions. Continuous data was represented as mean and standard deviation. Normality of the continuous data was tested by Kolmogorov–Smirnov test and the Shapiro–Wilk test.

RESULTS-

In the present study, the majority of subjects were in the age group 20–30 years (44.8%), followed by 31–40 years (29.9%) and 41–50 years (23.9%), with only 1.5% in the 51–60 age group. Males constituted 71.6% of the sample, while females accounted for 28.4%. Regarding marital status, 59.7% were married or living with a partner, 38.8% were single, and 1.5% were separated or divorced. The total number of persons in the house varied, with the majority (40.6%) living in households with more than 6 members. Duration of working from home varied, with 29.9% having done so for 7–12 months, 26.8% for 36 months and above, and 23.9% for up to 6 months. Perceived workload was reported as level 4 by 50.7% of respondents, level 3 by 34.3%, level 5 by 10.4%, and level 2 by 4.5%, with no respondents selecting level 1. A previous history of medical illness was reported by 16.4% of the participants. Only 4.5% reported undergoing psychiatric counselling, while 95.5% had not [Table 1]. Regarding the type of job held by the spouse (if applicable), 60% of partners were engaged in paid employment, 35% were involved in household work, and 5% managed a home

The quality of life (QOLS) assessment among IT professionals working from home revealed varied perceptions across domains. Material well-being or financial security was rated as *pleased* (31.3%) and *delighted* (32.8%) by the majority. In terms of health, 28.4% reported *mixed* feelings, with 22.4% each reporting *mostly satisfied* and *pleased*. Relationships with relatives were highly rated, with 38.8% *pleased* and 26.9% *delighted*. Child-rearing saw 31.3% *pleased* and 19.4% *delighted*. Relationships with spouse or significant other had 31.3% *pleased* and 26.9% *delighted*. Having close friends was marked by 25.4% *pleased* and 28.4% *delighted*. Helping others was *pleased* (25.4%) and *delighted* (28.4%) for a substantial portion. Civic activities had more mixed responses, with 22.4% each for both *mixed* and *pleased*, and 20.9% *delighted*. Intellectual development, understanding of self, occupational role, and personal expression/creativity showed similar high ratings in the *pleased* and *delighted* categories. Socializing and both passive and active recreational activities reflected a generally positive perception, with over 26% in the



pleased category and notable *delighted* percentages [Table 2].

The mean quality of life scores among IT professionals working from home indicated high satisfaction across most domains. Material well-being scored 5.78 ± 1.139 , health 5.01 ± 1.365 , relationship with relatives 5.67 ± 1.211 , and having and raising children 5.22 ± 1.444 . Relationships with spouse/significant other scored 5.39 ± 1.566 , having close friends 5.31 ± 1.607 , helping others 5.43 ± 1.427 , and civic activities 4.73 ± 1.839 . Intellectual development had a mean of 5.00 ± 1.670 , understanding of self- 5.45 ± 1.385 , occupational role 5.55 ± 1.271 , creativity/personal expression 5.24 ± 1.361 , socializing 5.01 ± 1.591 , passive recreation 5.43 ± 1.479 , and active recreation 4.96 ± 1.590 . These results suggest a generally positive quality of life experience during work from home in the pandemic period [Table 3].

The mean total Quality of Life Score (QOLS) among IT

professionals was 79.19 ± 15.801 , with observed scores ranging from 37 to 105, indicating a wide range of perceived quality of life among the participants.

The Pittsburgh Sleep Quality Index (PSQI) components among IT professionals working from home revealed notable findings. For subjective quality of sleep, 71.6% scored '1' and 16.4% scored '0'. Sleep quality was rated '0' by 37.3% and '1' by 31.3%. Sleep duration had 50.7% scoring '1' and 25.4% scoring '0'. Sleep efficacy was optimal, with 85.1% scoring '0'. Regarding sleep disorders, 64.2% scored '1' and 10.4% scored '0'. Use of sleeping pills was minimal, with 83.6% scoring '0'. Sleep-related daytime dysfunction had 53.7% scoring '1' and 37.3% scoring '0'. The global PSQI score indicated that 58.2% of IT professionals had a score ≤ 5 , suggesting good sleep quality, while 41.8% had a score > 5 , indicating potential sleep disturbances [Table 4].

Table 1: General characteristics of study participants (N= 67)

	Study characteristics	Frequency	Percentage (%)
Age group	20- 30	30	44.8
	31- 40	20	29.9
	41- 50	16	23.9
	51- 60	1	1.5
Gender	Male	48	71.6
	Female	19	28.4
Marital Status	Married or living with a partner	40	59.7
	Separated or divorced	1	1.5
	Single	26	38.8
Total number of persons in house	1	2	3.1
	2	6	9.3
	3	5	7.8
	4	5	7.8
	5	7	10.9
	>6	26	40.6
Duration of Work from Home (in months)	Up to 6	16	23.9
	7- 12	20	29.9
	13- 24	7	10.4
	25- 35	6	9
	36 and above	18	26.8
Perceived work load	1	0	0



	2	3	4.5
	3	23	34.3
	4	34	50.7
	5	7	10.4
Previous history of medical illness	Yes	11	16.4
	No	56	83.6
Psychiatric counselling	Yes	3	4.5
	No	64	95.5

Table 2: Table showing quality of life (QOLS) in IT professionals doing work from home in COVID 19 pandemic

Domain	% Of IT Professional Doing Work from Home													
	"Terrible" -1		"Unhappy" (2)		"Mostly Dissatisfied" (3)		"Mixed" -4		"Mostly Satisfied" (5)		"Pleased" (6)		"Delighted" (7)	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
1 Material well-being or financial security	0	0	0	0	2	3	9	13.4	13	19.4	21	31.3	22	32.8
2 Health	1	1.5	1	1.5	5	7.5	19	28.4	15	22.4	15	22.4	11	16.4
3 Relationship with parents, siblings, relatives	0	0	1	1.5	3	4.5	8	11.9	11	16.4	26	38.8	18	26.9
4 Having and raising children	2	3	0	0	6	9	12	17.9	13	19	21	31.3	13	19.4
5 Relationship with spouse or significant other	2	3	3	4.5	3	4.5	8	11.9	12	17.9	21	31.3	18	26.9
6 Having close friends	3	4.5	1	1.5	4	6	11	16.4	12	17.9	17	25.4	19	28.4
7 Helping others	1	1.5	0	0	8	11.9	6	9	16	23.9	17	25.4	19	28.4
8 Civic activities	4	6	6	9	6	9	15	22.4	7	10.4	15	22.4	14	20.9
9 Intellectual development	3	4.5	4	6	5	7.5	10	14.9	14	20.9	18	26.9	13	19.4
10 Understanding of self	1	1.5	0	0	5	7.5	12	17.9	11	16.4	20	29.9	18	26.9
11 Occupational role	0	0	2	3	2	3	10	14.9	13	19.4	23	34.3	17	25.4
12 Creativity/personal expression	1	1.5	0	0	6	9	14	20.9	13	19.4	20	29.9	13	19.4
13 Socializing	2	3	2	3	9	13.4	11	16.4	12	17.9	18	26.9	13	19.4
14 Passive and observational recreation	0	0	3	4.5	6	9	8	11.9	12	17.9	18	26.9	20	29.9
15 Active and participatory recreation	0	0	6	9	7	10.4	15	22.4	8	11.9	18	26.9	13	19.4



Table 3: showing the mean QOL scores among the IT professionals doing work from home in COVID 19 pandemic

Quality of life items	Mean	SD	Minimum-Maximum
Material	5.78	1.139	3- 7
Health	5.01	1.365	1- 7
Relationship with relative	5.67	1.211	2- 7
Having and raising children	5.22	1.444	1- 7
Relation with spouse or significant other	5.39	1.566	1- 7
Having close friends	5.31	1.607	1- 7
Helping others	5.43	1.427	1- 7
Civic activities	4.73	1.839	1- 7
Intellectual development	5.00	1.670	1- 7
Understanding of self	5.45	1.385	1- 7
Occupational role	5.55	1.271	2- 7
Personal expression or creativity	5.24	1.361	1- 7
Socializing	5.01	1.591	1- 7
Passive recreation	5.43	1.479	2- 7
Active recreation	4.96	1.590	2- 7

Table 4: Table showing Pittsburgh sleep quality index & global scores in IT professional doing work from home in COVID 19 pandemic

Component	Variable	% of IT professionals doing work from home having score (N=67)							
		0		1		2		3	
		Count	%	Count	%	Count	%	Count	%
1	Subjective quality of sleep	11	16.40 %	48	71.60 %	6	9%	2	3%
2	Sleep quality	25	37.30 %	21	31.30 %	15	22.40 %	6	9%
3	Sleep duration	17	25.40 %	34	50.70 %	15	22.40 %	1	1.50 %
4	Sleep efficacy	57	85.10 %	10	14.90 %	0	0%	0	0%
5	Sleep disorder	7	10.40 %	43	64.20 %	15	22.40 %	2	3%
6	Use of sleeping pills	56	83.60 %	3	4.50%	4	6%	4	6%
7	Sleep related daily disjunction	25	37.30 %	36	53.70 %	6	9%	0	0%
8	PSQI Global Score	% of IT professionals doing work from home having global score							
		>5				≤ 5			
		28				39			



Discussion:

The present study assessed the quality of life (QOL) and sleep quality in IT professionals engaged in work from home (WFH) during the COVID-19 pandemic. The findings revealed a generally positive perception of QOL across domains, with certain variations, and a significant proportion experiencing good sleep quality, while a notable subset reported disturbances.

In terms of QOL, a majority of participants reported being pleased or delighted in domains such as material well-being, relationships with relatives, occupational role, and understanding of self. These findings align with previous reports suggesting that WFH can enhance certain aspects of life satisfaction due to increased flexibility, reduced commuting stress, and greater autonomy.^{1,4,7} A similar study by Drašler et al.⁷ during the pandemic also highlighted that employees appreciated the work-life balance improvements enabled by WFH, though with notable interindividual differences.

However, the relatively lower scores in civic activities and active recreation reflect the reduced opportunities for social and community engagement during pandemic restrictions — a trend also observed globally.^{1,5} Oakman et al.⁵ emphasized that physical and mental health impacts of prolonged WFH can be mitigated by encouraging safe avenues for physical activity and social interaction.

Regarding sleep quality, the majority of participants reported good sleep efficiency and minimal use of sleep aids. However, about 41.8% exhibited global PSQI scores >5 , suggesting sleep disturbances, consistent with earlier findings.^{6,9,10} Massar et al.,⁹ demonstrated that even two years into the pandemic, WFH continued to significantly influence sleep patterns, with increased variability and delayed sleep onset, particularly among IT professionals managing flexible schedules.

The high percentage of mixed and poorer ratings in health and sleep-related domains in our sample could be partially explained by increased screen time, blurring of work-home boundaries, and reduced physical activity, phenomena well-documented in both OECD reports¹ and sleep-focused studies.^{6,9} Yoshida et al.,⁶ also noted that longer working hours in remote setups can negatively impact sleep quality, especially when not accompanied by adequate recovery routines.

Interestingly, our results showed relatively high mean QOLS scores (79.19 ± 15.801), consistent with previous validation of the QOLS instrument in occupational contexts.¹¹ This suggests that, despite challenges, many IT professionals demonstrated resilience and adaptability, maintaining a positive sense of life satisfaction during prolonged WFH.

Psychological impacts of isolation, altered work dynamics, and pandemic-related stress remain key considerations. Mann & Holdsworth² reported early on that teleworking can elevate both stress and job satisfaction, depending on support structures. The low rate of psychiatric counseling (4.5%) in our sample might indicate under-recognition of mental health needs or access barriers, a concern echoed in broader reviews.^{5,8}

Overall, our findings align with systematic reviews indicating heterogeneous effects of WFH on both performance and well-being,^{4,8} with the balance tipped toward positive experiences among those with favorable home environments and adequate digital infrastructure. Variations between studies may stem from cultural factors, gender roles, household composition, and organizational support. For instance, Gupta et al.³ highlighted the uneven impact of WFH across different sectors and regions in India, influenced by socio-economic and technological divides.

Conclusion:

The present study explored the quality of life, sleep quality of IT professionals engaged in work from home (WFH) during the COVID-19 pandemic. The findings indicate that WFH has led to a complex interplay of experiences across various life domains among this professional group. Overall, most participants reported a positive perception of their quality of life across multiple areas, including relationships, personal well-being, and occupational roles. Many domains such as material well-being, personal relationships, and personal growth were perceived favourably, reflecting a degree of adaptability and resilience among IT professionals in adjusting to the WFH environment. The majority also demonstrated relatively positive subjective experiences regarding their health and intellectual development, suggesting that professionals were able to maintain a sense of balance despite the altered work settings. Conversely,



certain areas such as civic activities and active recreation appeared more variable, likely influenced by social restrictions during the pandemic. Additionally, the sleep quality assessment revealed that while many participants experienced good overall sleep, notable proportions did report issues related to sleep quality, sleep disturbances, and daytime dysfunction, underscoring that WFH may present challenges to maintaining optimal sleep hygiene. The findings underscore that although IT professionals adapted well in many aspects of life during extended remote work, certain health and wellness aspects, particularly sleep patterns, merit attention. This highlights the importance of addressing holistic well-being in future work models as remote work continues to be a significant component of the post-pandemic professional landscape.

References:

1. OECD. Measuring telework in the COVID-19 pandemic [Internet]. Paris: OECD Publishing; 2021 Jul. (OECD Digital Economy Papers; vol. 314). Available from: https://www.oecd.org/en/publications/measuring-telework-in-the-covid-19-pandemic_0a76109f-en.html
2. Mann S, Holdsworth L. The psychological impact of teleworking: stress, emotions and health. *New Technol Work Employ*. 2003;18(3):196–211.
3. Gupta R, Madgavkar A, Yadav H. Reopening India: Implications for economic activity and workers. McKinsey Global Institute; 2020.
4. Anakpo G, Nqwayibana Z, Mishi S. The impact of work-from-home on employee performance and productivity: A systematic review. *Sustainability*. 2023;15(1):1155.
5. Oakman J, Kinsman N, Stuckey R, Graham M, Weale V. A rapid review of mental and physical health effects of working at home: how do we optimise health? *BMC Public Health*. 2020 1;20(1):1825.
6. Yoshida A, Asakura K, Imamura H, Mori S, Sugimoto M, Michikawa T, et al. Relationship between working hours and sleep quality with consideration to effect modification by work style: a community-based cross-sectional study. *Environ Health Prev Med*. 2024;29:6.
7. Drašler V, Bertonecelj J, Korošec M, Žontar TP, Ulrih NP, Cigić B. Difference in the attitude of students and employees of the University of Ljubljana towards work from home and online education: lessons from COVID-19 pandemic. *Sustainability*. 2021;13(9):5118.
8. Choukir J, Alqahtani MS, Khalil E, Mohamed E. Effects of working from home on job performance: empirical evidence in the Saudi context during the COVID-19 pandemic. *Sustainability*. 2022;14(6):3603.
9. Massar SAA, Ong JL, Lau TY, Ng BKL, Chan LF, Koek D, et al. Working-from-home persistently influences sleep and physical activity 2 years after the COVID-19 pandemic onset: a longitudinal sleep tracker and electronic diary-based study. *Front Psychol*. 2023;14:1103996.
10. Ghasemi SR, Karami M, Rezaei N, Gholami K, Norouzi K, Mohammadi S, et al. Sleep quality and health-related quality of life in workers of Kermanshah Industrial Town: a correlation study. *Indian J Occup Environ Med*. 2020;24(2):72–7.
11. Burckhardt CS, Anderson KL. The Quality of Life Scale (QOLS): reliability, validity, and utilization. *Health Qual Life Outcomes*. 2003;1:60.
12. Sohn SI, Kim DH, Lee MY, Cho YW. The reliability and validity of the Korean version of the Pittsburgh Sleep Quality Index. *Sleep Breath*. 2012;16(3):803–12.
13. Backhaus J, Junghanns K, Brooks A, Riemann D, Hohagen F. Test–retest reliability and validity of the Pittsburgh Sleep Quality Index in primary insomnia. *J Psychosom Res*. 2002;53(3):737–40.