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ASSESSMENT OF COMMON BIOPSYCHOSOCIAL PROBLEMS AMONG THE SOFTWARE PROFESSIONALS

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ABSTRACT

A study entitled assessment of biopsychosocial problems among software professionals was conducted with an objective to assess the biopsychosocial problems. The research design used was descriptive survey method. Data were collected using observation checklist. The study results revealed that majority of the software professionals had biological problems namely, upper trunk pain 232 (58.0%), lower extremity pain 192 (48.0%), upper extremity pain 176 (44.0%) and eye strain 152 (38.0%). Psychological problems like frustration 218 (54.5%), job stress 184 (46.0%) and depression 140 (35.0%). Sociological problems like work-family conflict 176 (44.0%), family work conflict 160 (40.0%) and poor work satisfaction 120 (30.0%).

KEY WORDS

Assessment, Biopsychosocial problems, Software professionals

1.0. INTRODUCTION

Software is one of the most opted professions among the literates in India. The high compensations coupled with the great perks and quick growth scopes have made every aspirant to opt for this sector. The software profession has its own merits, but at the same time there are a wide range of problems associated with it even at a younger age.

1.1. NEED FOR THE STUDY

Working for hours with a computer is now a new trend in life. Whether it is for work or just for fun, certain risks are involved with prolonged computer use. Any task that involves staring at a computer screen, no matter how exciting or interesting, leads to various health problems. The most common complaints are eye strain, headache, neck pain, shoulder pain, backache, upper and lower extremity pain, hypertension, obesity, constipation, thrombosis, insomnia, frustration, job stress, depression, work family conflict, work dissatisfaction, family dissatisfaction and family work conflict.

1.2. STATEMENT OF THE PROBLEM

Assessment of common biopsychosocial problems among the software professionals

1.3. OBJECTIVE OF THE STUDY

- To assess the common biopsychosocial problems among the software professionals

2.0. MATERIALS AND METHODS

- **Research approach** – Quantitative approach
- **Research design** – Descriptive survey design
- **Research setting** – Software companies, Chennai
- **Population** – Software professionals
- **Sample and sample size** – 400 software professionals
- **Sampling technique** – Systematic sampling technique
- **Study instruments used**
 - Tool 1: Demographic and occupational variables
 - Tool 2: Checklist to assess the common biopsychosocial problems
- **Procedure for data collection** - A study was conducted on 400 software professionals in the software companies at Chennai. The tools were administered after obtaining the administrative and informed consent to assess the common biopsychosocial problems among the software professionals.
- **Plan for data analysis** - Descriptive and inferential statistics with the help of SPSS version 20.0 was used for analysis of data

3.0. RESULTS AND DISCUSSION

Section 1: Demographic and occupational data of the software professionals

Table 1: Frequency and percentage distribution of demographic variables

N=400

S No	Demographic variables	Frequency	%
1	Gender		
	Men	245	61.3
	Women	155	38.7
2	Age		
	35 years and below	316	79.0
	Above 35 years	84	21.0
3	Marital status		
	Unmarried	271	67.8
	Married	129	32.2
4	Education level		
	Undergraduates/diploma holder	255	63.8
	Postgraduates	145	36.2
5	Monthly income		
	Upto Rs. 30,000	215	53.8
	More than Rs. 30,000	185	46.2
6	Type of family		
	Joint	130	32.5
	Nuclear	270	67.5

Table 1 depicts the demographic data of the software professionals. Regarding gender, 245 (61.3%) were men and 155 (38.7%) were women.

Of the total 400 software professionals studied, 316 (79.0%) were aged below 35 years and 84 (21.0%) were aged above 35 years.

Regarding marital status, 271 (67.8%) were unmarried and 129 (32.2%) were married.

Regarding education level, 255 (63.8%) were undergraduates or diploma holders and 145 (36.2%) were postgraduates.

Regarding monthly income, 215 (53.8%) were drawing salaries upto Rs. 30,000 and 185 (46.2%) was drawing more than Rs. 30,000 as salary.

With regard to type of family, 270 (67.5%) were in nuclear family and 130 (32.5%) of them were in joint family.

Table 2: Frequency and percentage distribution of occupational variables

N=400

S No	Occupational variables	Frequency	%
1	Type of IT sector		
	Software programming and development	390	97.5
	Medical transcription, call center & coding employees	10	2.5
2	Type of computer used at work		
	Desktop computer	100	25.0
	Laptop computer	300	75.0
3	Designation		
	Software engineer or application developer	284	71.0
	Associate/Technical head	116	29.0
4	Total work experience		
	Upto 5 years	249	62.3
	More than 5 years	151	37.7
5	Total number of companies worked previously		
	Upto 2 companies	274	68.5
	More than 2 companies	126	31.5
6	Working in shifts		
	Yes	56	14.0
	No	344	86.0
7	Work duration (in a day)		
	Upto 8 hours	323	80.8
	More than 8 hours	77	19.2
8	Regularity in taking work breaks		
	Rarely (1 to 2 times a day)	306	76.5
	Often (More than 2 times a day)	94	23.5
9	Duration of work breaks		
	30 minutes and less	325	81.3
	More than 30 minutes	75	18.7
10	Time spent in travel		
	Less than 1 hour	241	60.3
	More than 1 hour	159	39.7
11	Distance travelled		
	Upto 25 kms	268	67.0
	More than 25 kms	132	33.0
12	Nature of job		

Easy	328	82.0
Difficult	72	18.0

Table 2 depicts the occupational data of the software professionals.

Of the total 400 software professionals studied, 390 (97.5%) were from IT division (software programmers and developers) and 10 (2.5%) were from medical transcription, call center and coding employees. Regarding type of computer used, 300 (75.0%) were using laptop computer and 100 (25.0%) were using desktop computer.

With regard to designation, 284 (71.0%) were designated as software engineer or application developer and 116 (29.0%) were designated as Associate or Technical head. Of the total 400 software professionals studied, 249 (62.3%) were working in the present organization for upto 5 years and those with more than 5 years of tenure were 151 (37.7%).

Of the total 400 software professionals studied, 274 (68.5%) had worked upto a maximum of two companies and 126 (31.5%) worked in more than two companies. Regarding working in shifts, 344 (86.0%) worked in general shifts and 56 (14.0%) worked in shift duty.

Regarding work duration, 323 (80.8%) of them worked for upto 8 hours in a day and 77 (19.2%) of them were working more than 8 hours in a day. Of the total 400 software professionals studied, 306 (76.5%) took breaks rarely and 94 (23.5%) of them took breaks regularly.

Regarding duration of work breaks, 325 (81.3%) took breaks less than 30 minutes and 75 (18.7%) of them took more than 30 minutes of work break. Regarding time spent on travel, 241 (60.3%) spend less than 1 hour to reach office and 159 (39.7%) of them spent more than 1 hour to reach their office.

Of the total 400 software professionals studied, 268 (67.0%) travelled upto 25 kms in a day and 132 (33.0%) of them travelled more than 25 kms in a day. With regard to nature of job, 328 (82.0%) viewed their job as easy and 72 (18.0%) of them viewed it as difficult.

Section 2: COMMON BIOPSYCHOSOCIAL PROBLEMS AMONG THE SOFTWARE PROFESSIONALS

Table 3 depicts the domain-wise frequency and percentage distribution of common biopsychosocial problems among the software professionals.

N=400

S No	Biopsychosocial problems	Present		Absent	
		No.	%	No.	%
Biological problems					
1	Eye strain	152	38.0	248	62.0
2	Upper trunk pain	232	58.0	168	42.0
3	Upper extremity pain	176	44.0	224	56.0
4	Lower extremity pain	192	48.0	208	52.0
5	Hypertension	23	5.8	377	94.2
6	Obesity	72	18.0	328	82.0
7	Constipation	46	11.5	354	88.5
8	Thrombosis	28	7.0	372	93.0
Psychological problems					
9	Sleep problem	58	14.5	342	85.5
10	Frustration	218	54.5	182	45.5
11	Job stress	184	46.0	216	54.0
12	Depression	140	35.0	260	65.0
Sociological problems					
13	Work-family conflict	176	44.0	224	56.0
14	Work satisfaction	120	30.0	280	70.0
15	Family satisfaction	60	15.0	340	85.0
16	Family work conflict	160	40.0	240	60.0

Data, in table 3, shows the domain-wise distribution of common biopsychosocial problems among the software professionals.

The biological health problems include eye strain, upper trunk pain, upper extremity pain, lower extremity pain, hypertension, obesity, constipation and thrombosis. From the data collected, with regard to biological problems among the software professionals, 152 (38.0%) had eye strain, 232 (58.0%) had upper trunk pain, 176 (44.0%) had upper extremity pain, 192 (48%) had lower extremity pain, 23 (5.8%) had hypertension, 72 (18.0%) had obesity, 46 (11.5%) had constipation and 28 (7.0%) had thrombosis.

The psychological health problems include sleep problem, frustration, job stress and depression. Of the total 400 respondents, with respect to psychological problems, 58 (14.5%) had sleep problem, 218 (54.5%) had frustration, 184 (46.0%) had job stress and 140 (35.0%) had depression.

The sociological health problems include work-family conflict, work satisfaction, family satisfaction and family work conflict. From the data collected, with respect to sociological problems, 176 (44.0%) of them had work-family conflict, 120 (30.0%) of them had poor work satisfaction, 60 (15.0%) of them had poor family satisfaction and 160 (40.0%) of them had family work conflict.

DISCUSSION

1. Regarding biological problems among the software professionals, 232 (58.0%) had upper trunk pain, 192 (48.0%) had lower extremity pain, 176 (44.0%) had upper extremity pain and 152 had eye strain.
2. With regard to psychological problems among the software professionals, 218 (54.5%) had frustration, 184 (46.0%) had job stress and 140 (35.0%) had depression.
3. Related to sociological problems among the software professionals, 176 (44.0%) had work family conflict, 160 (40.0%) had family work conflict and 120 (30.0%) had poor work satisfaction
4. The results revealed the point that majority of the software professionals had
 - biological problems, namely upper trunk pain, lower extremity pain, upper extremity pain and eye strain
 - psychological problems, namely frustration, job stress and depression
 - sociological problems, namely work-family conflict, family work conflict and poor work satisfaction

The study finding has the support of the following studies:

Mohanty, Singh and Pattnaik (2017) conducted a cross-sectional study among the software professionals to find the prevalence and also risk-factors associated with musculoskeletal pain among the computer users. Among the 715 software professionals, most (76.0%) of them had musculoskeletal pain, of which 59.86% of them had low back pain, 47.13% of them had neck pain, 46.43% of them had upper back pain, 46.43% of them had shoulder pain, 38.04% of them had wrist pain, 37.90% of them had hip pain, 37.62% of them had knee pain and 34.82% of them had lower leg pain.

Rakhadani, Goon and Mandeya (2017) conducted a cross-sectional study among the University students from Nepal to find the prevalence, causes and consequences of musculoskeletal problems among the computer users. Among the 694 university students, most (84.6%) of them used computer for internet. A total of 52.3% of them had neck pain, 47% of them had shoulder pain, 45% of them had finger pain, 43.1% of them had low back pain, 42.9% of them had generalized body pain, 36.2% of them had elbow pain, 33.7% of them had wrist pain, 29.1% of them had hip and foot pain and 26.2% of them had knee pain. Majority (43.7%) of them had mild pain, 24.2% of them had moderate pain and 8.4% of them had severe pain.

Fathi (2016) conducted a descriptive study among the software professionals from Iran to find the prevalence rate of postural damages, disorders and anomalies. Among the 160 participants, 81.25% of them highlighted hip/waist pain, 81.25% of them had head pain, 87.50% of them had eye pain, 93.75% of them had pelvic pain and 100% of them had neck, shoulder, wrist, and finger and knee pain. Significant associations were found between unsuitable chairs, incorrect way of sitting and lack of movement and the prevalence of postural anomalies among the computer users.

Hossain, Eusufzai, Barua and Jamajet (2016) conducted a cross-sectional study among the Bankers of Dhaka city to find the prevalence of computer related musculoskeletal disorders and to associate the musculoskeletal

pain and computer use. Among the 400 bankers, using computers regularly, 301 (75.2%) of them had neck pain, 90 (22.5%) of them had upper back pain, 123 (30.8%) of them had shoulder pain, 34 (8.4%) of them had elbow pain, 76 (19.0%) of them had wrist pain, 82 (20.5%) of them had finger pain, 192 (48%) of them had back pain, 43 (10.8%) of them had knee pain, 24 (6%) of them had leg pain, 21 (5.2%) of them had ankle pain and 18 (4.5%) of them had toe pain.

Gujrathi and Sharma (2014) conducted a cross sectional study on a sample of 122 computer workers in a call center in Mumbai, India to test the health problems among the call center workers with special reference to musculoskeletal disorders. It was explored that the most common health problem, associated with call center workers, was irritable mood (67.2%), musculoskeletal problems (62.3%), visual problems (58.2%) and sleep disturbances (32.8%). Neck pain was the most common musculoskeletal problems followed by backache. Musculoskeletal problems were much associated ($p < 0.05$) with the time spent on computer screen, duration of job and availability of ergonomic furniture at the work place.

CONCLUSION

The study ends with a conclusion that the training module in the prevention and management of biopsychosocial problems was found to be effective in improving the knowledge among the software professionals.

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