International Journal of Medical and Pharmaceutical Research
Website: https://ijmpr.in/ | Print ISSN: 2958-3675 | Online ISSN: 2958-3683
NLM ID: 9918523075206676
Volume: 4 Issue:6 (Nov-Dec 2023); Page No: 99-103

Original Article

IJMPR

Morbidity profile of the Staff Nurses in a Tertiary Care Hospital Attached to a Teaching Institute

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ABSTRACT

Background: Human resources of health care system are vital for its optimal functioning. Nurses occupy 2/3rd of the health work-force with Nurse-population ratio as 1.7/1000 population in India. Though being a part of health care system they themselves are victims to the work stress, occupational hazards and unhealthy life-style resulting in various morbidities.
Objectives: This study aimed to study the socio-demographic profile, estimate the prevalence of morbidities and identify its related factors among the nurses.
Materials & Methods: A cross-sectional study was conducted involving 435 study participants (Universal sampling method) at a tertiary care teaching institute. Data were extracted from the existing medical records.
Results: Out of 435 study participants, 178 (40.9%) were having comorbidities. The prevalent diseases were Hypertension (49.4%), Thyroid disorders (31.5%), Diabetes Mellitus (30.3%), Arthritis (12.9%), Musculoskeletal disorders (11.2%), Bronchial Asthma (7.3%), Dyslipidaemia (3.9%), Cancer (2.8%), Ischaemic heart disease (1.7%) and Lupus disorders (0.6%). 83 (19.1%) needle stick injuries were reported out of which 53(63.9%) were reported and treated. Age ($p<0.001$), years of service($p<0.001$), Shift duties($p<0.001$), physical inactivity($p<0.001$), Family history of comorbidities($p<0.001$) and BMI($p=0.001$) showed significant association between the comorbidities.
Conclusion: Hypertension, Thyroid disorders and Diabetes mellitus were the most common comorbidities among the study population. The occupational safety and health of nurses can be improved by regular health check-ups, mental health support, positive working environment, sick leaves and insurance. It will attract future generation to perceive Nursing as a career and thus bridging the Nurse-population ratio gap.

Key Words: *Morbidity, Healthcare workers, Occupational health*

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INTRODUCTION:

Human resources of health care system are vital for its optimal functioning. Nurses occupy 2/3rd of the health work-force with Nurse-population ratio as 1:670 in India.[12]The quality of care that nurses give to their patients is directly impacted by their health and well-being, which plays a crucial role in the healthcare system. Nurses face a variety of health risks related to their work, including physical injuries, exposure to infectious diseases, and mental health issues such as burnout and depression.[3]

The personnel of the health service are its most valuable asset, so it is only sensible to make sure that everything possible is done to help them provide the highest quality of care. If health care workers are troubled by their own ill-health, or other stressful circumstances, then they will not be able to give their full attention to this demanding task[4].

Prevalence of occupational violence towards nursing professionals in emergency settings is also frequently reported in the literature, as well as the impact of these events on the health of the workers who were victims[5]. Nurses with more variable sleep durations had elevated levels of inflammation, which may increase risk for development of inflammatory-related diseases[6].

Nursing professionals working in the hospital settings are exposed to inadequate ergonomic factors, numerous work activities, overload and intensification of work. These aspects can lead to mental illnesses, and contribute to the genesis of musculoskeletal disorders. Moreover, these conditions can increase the risk for work injuries and lead to high absenteeism[7].

While nurses' health is at risk as comparing with other people due to workplace stress, it is under – reported or neglected broadly[8]. Improving the nurse's health status and increasing nurse's enthusiasm in clinical nursing can improve the quality of healthcare. On studying these issues and developing interventions to address them, we can improve the health and well-being of the nursing workforce. This study aimed to study the socio-demographic profile, estimate the prevalence of morbidities and identify its related factors among the nurses. Follow-up element is not included.

Methodology:

It was a cross-sectional study conducted among the staff nurses working in a tertiary care teaching hospital in a metropolitan city. There was a health check-up camp for Staff Nurses organized by Department of Community Medicine in collaboration with Social Service Department. The Camp also involved other specialties such as Medicine, Surgery, Cardiology, Obstetrics and Gynaecology and a Nutritionist. The Staff Nurses underwent Detailed history taking by Face-to-face interview, Physical Examination by Doctors, Basic Laboratory Investigations in the Camp. 435 Staff nurses were involved in the study using census sampling. Data was extracted from the camp records. It included demographic information & work profile, details about the comorbid condition and general physical examination. Since the study participants were benefited by medical consultation and Laboratory investigations on their own willingness, Waiver of consent was applied in this study. Data was compiled and tabulated using Ms excel. Results were analysed using SPSS and presented in tables and graphs.

Results:

Table 1 shows the socio-demographic profile of the study participants. Of the 435 study participants, almost half of them belonged to 46 to 55 years age group with mean age of 43.5 years with standard deviation of 11.1 years. All of them were female staff nurses. Majority of them (88.5%) were married. More than half of them (63.7%) were residing in the sub-urban areas situated far away from the workplace. 92.6% were qualified as GNM. Almost half of them (46%) had income of more than I lakh per month. 48% of them were having work experience of more than 25 years. 64 % of the study participants were having shift duties. 46 % of the study participants were carrying out mild to moderate physical activity.

Table 2 shows the presence and distribution family history of comorbidities. More than half of them (55.4%) were having family history of co-morbidities. Most of them gave history of comorbidities in their mother. 66% of them gave family history of Hypertension, followed by Diabetes mellitus (61%) and others.

Table 3 shows the association between socio-demographic details and co-morbidities. Age ($p<0.001$), years of service ($p<0.001$), shift duties ($p<0.001$), physical activity ($p<0.001$), family history of co-morbidities ($p<0.001$)and BMI ($p=0.001$)were significantly associated with the co-morbidities of the study participants.

Table 1. Demographic details of study participants (N=435)

Socio-demographic	Frequency	Percentage
Age		
15-25	2	0.5
26-35	143	32.9
36-45	53	12.2
46-55	206	47.4
56-65	31	7.1
Marital Status		
Married	385	88.5
Single	50	11.5
Address		
Metrocity	158	36.3
Sub-urban (away from the hospital)	277	63.7
Educational qualification		
B.Sc-Nursing	28	6.4
GNM	403	92.6
M.Sc-Nursing	4	0.9

Income cat		
<50000	114	26.2
50000-99000	121	27.8
>100000	200	46
Years of Service		
<5yrs	101	23.2
>25yrs	186	42.8
16-25	80	18.4
5-15yrs	68	15.6
Shift duties		
No	156	35.9
Yes	279	64.1
Physical activity		
No	235	54
Yes	200	46

Table 2. Family History of comorbidity pattern of Staff Nurse

Family History(N=435)	Frequency	Percent
Family history of comorbidities		
No	194	44.6
Yes	241	55.4
Family member who had comorbidity(N=241)		
Father	61	25.3
Mother	165	68.5
Both	74	30.7
Sibling	23	9.5

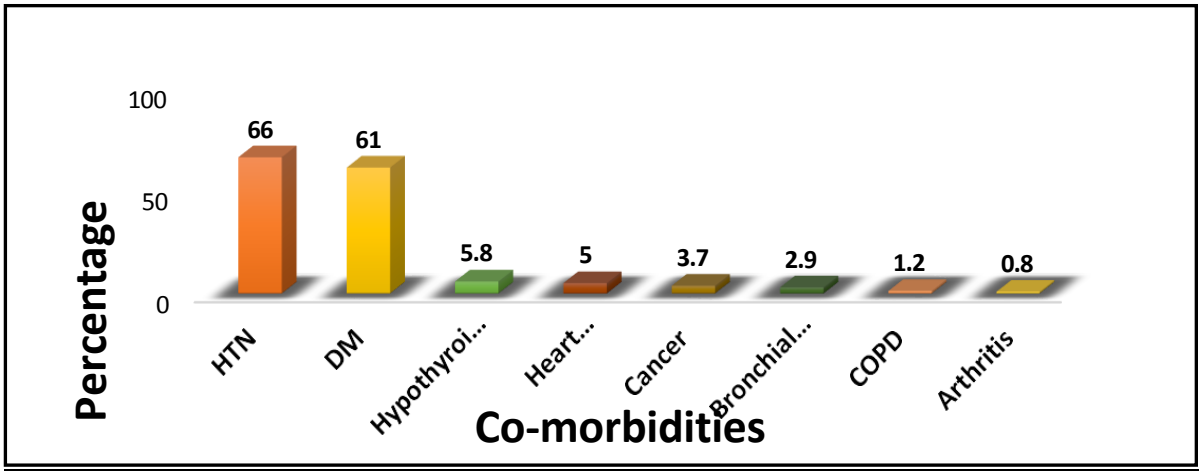

Figure 1. Distribution of Comorbidities in Family Members

Table 3. Association between the comorbidity of study participants with different variables

Variables		Comorbidities		Total	PValue
		Absent	Present		
Age	<50Yrs	164	34	198	**<0.001***
	>50Yrs	93	144	237	

Address	Metrocity	87	71	158	0.198
	Sub-urban	170	107	277	
Years of service	<25yrs	186	63	249	**<0.001***
	>25yrs	71	115	186	
Shift duties	No	57	99	156	**<0.001***
	Yes	200	79	279	
Physical activity	No	92	143	235	**<0.001***
	Yes	165	35	200	
Family history of comorbidities	No	143	51	194	**<0.001***
	Yes	114	127	241	
BMI	<18.5	12	3	15	**0.001***
	>40	1	4	5	
	18.5- 24.9	121	62	183	
	25-29.9	87	63	150	
	30-34.9	34	36	70	
	35-39.9	2	10	12	

DISCUSSION:

In our study, mean age of 43.5 years with standard deviation of 11.1 years. The average age of female nurses was 32.6 years (SD = 7:2) in a study done by Nguyen et al. [9]

In a study by Kayaroganam R et al., more than two-thirds of Nurses had abdominal obesity (71.6%), more than half were obese (57.2%), and one-fifth were overweight (20.5%), which was higher among women and those aged≥ 40 years.[10] The toll of central obesity (83.5%) and overweight (42.6%) was greater than other risk factors in a study by Faruque M, Baruah et al. In our study, the percentage of obesity was 54.4% and BMI was significantly associated with comorbidities.[1112]

Prevalence of hypertension was 14.4% and diabetes mellitus was 11.5% in a study by Kayaroganam R et al.,. In our study, Hypertension (49.4%), Thyroid disorders (31.5%) and Diabetes mellitus (30.3%) were the most common comorbidities in this study. Disturbed sleep is common among the nurses, which in turn leading to various levels of mental stress and marching towards Non- communicable diseases.[6]

Prevalence of Musculoskeletal disorders among the staff nurses was (15.9%) in a study conducted in Bangalore. In our study, it was found to be 11.2 %. In another study done by Jelastopulu et al, 13.3 % who had self-reported Musculo-skeletal disorders were Staff nurses. [13]

Family history of NCD, considered to be an unchangeable risk factor, is present among the majority of health professionals who had high blood pressure, diabetes or obesity in a study by JG Domingues et al and various studies.[14] Similarly In our study, Family history of NCDs was significantly associated.

CONCLUSION:

Hypertension, Thyroid disorders and Diabetes mellitus were the most common comorbidities among the study population. The multifaceted nature of morbidity patterns among staff nurses underscores the need for comprehensive interventions that address both physical and mental health aspects. Initiatives focused on ergonomic improvements, stress management programs, and infection control measures are essential to mitigate the risks associated with their demanding profession. It will attract future generation to perceive Nursing as a career and thus bridging the Nurse-population ratio gap.[1516]

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