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RESEARCH ARTICLE

“AN EXPLORATIVE STUDY ON PROBLEMS OF PATIENTS WITH LOWER LIMB FRACTURE UNDERGONE SURGERY WITH A VIEW TO IDENTIFY THE NURSING CARE NEEDS IN SELECTED HOSPITAL OF DEHRADUN, UTTARAKHAND”

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Abstract

Aims: To identify the problems and nursing care needs of patients with lower limb fracture undergone surgery and to find out the association between problems and selected socio-demographic profile.

Materials and Methods: A quantitative research approach with explorative research design was used for the study. Total 53 participants were selected by purposive sampling technique in the orthopaedic ward of Himalayan hospital, Jollygrant, Dehradun, Uttarakhand. Data was collected by using self reporting checklist and observational checklist.

Results: The statistical finding shows that in the post-operative day 1-2, (73.5%) of the patients had moderate problems and (26.41%) of the participants had severe problem followed by in day 3-6, (88.67%) of the participants had moderate problem and (11.32%) of the participants had severe problems and in day 7-8, (75.4%) of the participants had moderate problem and (24.52%) of the participants had mild problem and Nursing care need were management of pain, monitoring of sleeping pattern, helping in changing position, assistance in range of motion exercise, monitoring of surgical site. There is not significant association between problems and selected demographic profile.

Conclusion: The study concluded that patient with lower limb fracture undergone surgery had problem related to pain, immobility, lack of hygiene, sleep disturbance and lack of information which was increased in day 1-2 but reduced as the post operative day increased.

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Introduction:-

Fracture basically refers to a complete or partial disarrangement in the bone which can be further classified into various types according to its cause or area involved. It generally happens when the bone faces stress greater than it can absorb.¹ The data of the global statistics shows about 178 million new fractures occur worldwide, 455 million are the prevalence case of fracture and 258 million people with fracture live with disability. Every year, 1.5 million people suffer from a fracture caused by bone disease. In Asia, the rate of fracture has increased threefold in the last 30 years, with India leading the way.²

Lower limb fracture refers to the break in one or more bones in the lower extremity.³ A study was done by Hemmann et al. revealed that the rate of femur fracture increased by 23.5% from 150,565 in 2002 to 185,979 in 2017 and femur fracture incident was increased year by year.⁴

The nursing care needs of the patient must be fulfilled through the nursing care in pursuit of promotion of health, prevention of disease and disability.⁵ A study done by Szots et al. findings shows that majority of participant had oedema in leg (90.7%), followed by pain (81.4%), sleeping disorder (47.7%), appetite problem (38.4%) and bowel dysfunction (34.9%) and 69.8% were unable to perform exercise.⁶

Materials and Methods:-

Ethical issues:

The study was carried out after receiving permission by the ethics committee of organization then permission was taken from the Medical Superintendent of the hospital and written informed consent was taken from the patients before data collection.

Study design and setting:

In the present study, exploratory research design was adopted to assess the problems of patients with lower limb fracture undergone surgery.

The study is done in the orthopaedic ward of Himalayan Hospital, Jollygrant, Dehradun, Uttarakhand. Total 53 patients with lower limb fracture undergone surgery were selected by purposive sampling technique.

Study tool:

The tools for data collection are divided into four parts:

Section A: Demographic profile of the patient

Section B: Clinical profile of the patient

Section C: Self reporting checklist to assess the problems of the patient with lower limb fracture undergone surgery.

Section D: Observational checklist to assess the problems of patient with lower limb fracture undergone surgery.

Data Analysis:

Table 1:- Frequency and percentage distribution of socio-demographic variable of patient with lower limb fracture post surgery.

N-53.

S. No.	Socio- demographic Variable		Frequency (f)	Percentage (%)
1.	Age in years	20- 40	27	50.9
		41- 60	19	35.8
		61- 80	6	11.33
		81- 100	01	1.9
2.	Gender	Male	39	73.6
		Female	14	26.4
3.	Educational status	No formal education	11	20.8
		High school	15	28.3
		Intermediate	17	32.1
		Graduate	06	11.3
		Post- graduate	04	7.5
4.	Marital status	Unmarried	12	22.6
		Married	41	77.4
5.	Occupation	Employed	27	50.9
		Unemployed	26	49.1
6.	Monthly income	Below 5000	1	1.9
		Between 5001 to 10000	16	30.2
		Between 10001 to 15000	17	32.1

		Above 15001	19	35.8
7.	Place of living	Rural	22	41.5
		Urban	31	58.5
8.	Dietary pattern	Vegetarian	19	35.8
		Non- vegetarian	34	64.2

The table 1 depicts that (50.9%) of the participants were in the age group of 20 and 40 years, with majority of patient's male i.e., (73.6%) and most of the participants had completed the intermediate. Around (77.4%) of the participants were married while, a major portion of the participants, i.e., (50.7%) were employed. (35.8%) participants had a monthly income of up to 15 thousand and (58.5%) of the participants were living in urban area. Further, (64.2%) patients were non-vegetarian.

Table 2:- Top 10 problems of the patient with lower limb fracture undergone surgery by using self reporting checklist N-53

S.No.	Problems	Percentage (%)
1.	Pain at surgical site	100
2.	Self-care deficit	94.3
3.	Unable to clean the perineal area	94.33
4.	Fatigue	93.06
5.	Unable to perform spirometry	88.6
6.	Sleeping disturbance	86.6
7.	Unable to perform deep breathing exercises	82.3
8.	Feeling pressure at shoulder/sacrum/heel due to immobilization.	81.13
9.	Feeling warm and swelling at surgical site	80.4
10.	Unable to changing the position	79.2

Table 2 shows that the top 10 problems of the patients with lower limb fracture undergone surgery at day 1-8 was related to pain at surgical site (100%), followed by self care deficit (100%), unable to clean the perineal area (94.3%), fatigue (93.1%), unable to perform spirometry (88.6%), sleep disturbance (86.6%), unable to perform deep breathing exercises (82.3%), feeling pressure at shoulder/sacrum/heel due to immobilization (81.3%), feeling warm at surgical site (80.4%), unable to changing the position (79.2%).

Table 3:- Day wise frequency and percentage distribution of problems of patients with lower limb fracture post surgery.

S.No.	Problems	Range	Day 1-2		Day 3-6		Day 7-8	
			(f)	%	(f)	%	(f)	%
1.	Mild Problem	0-14	0	0	0	0	13	24.5
2.	Moderate problem	15-28	39	73.6	47	88.7	40	75.5
3.	Severe problem	29-42	14	26.4	6	11.3	0	0

Minimum Score:0

Maximum Score: 42

Table 3 depicts that in the post- operative day 1-2, (73.58%) patients had moderate problems and (26.41%) of the participants had severe problems. From post- operative day 3-6, (88.67%) of the participants had moderate problem and 11.32%) of the participants had severe problems. From post- operative day 7-8, (75.47%) of the participants had moderate problem and (24.52%) of the participants had mild problem.

Table 4:- Day wise nursing care need of patient with lower limb fracture undergone surgery by using self reporting checklist. N-53.

S.No.	NURSING CARE NEED	Day 1-2 f (%)	Day 3-6 f (%)	Day 7-8 f (%)
1.	Management of pain related to surgical	53(100)	53(100)	53(100)

	site			
2.	Heath education about follow up	53(100)	53(100)	17(32.7)
3.	Care for perineal area	53(100)	52(98.1)	45(84.90)
4.	Assistance in self-care	53(100)	51(96.2)	46 (86.7)
5.	Assistance to performing spirometry	53 (100)	47(88)	41(77)
6.	Helping in changing position	53(100)	42(79.2)	32(60.3)
7.	Educate about deep breathing exercises	53(100)	41(77.3)	37(69.8)
8.	Monitoring and managing elimination pattern	53(100)	25(47.1)	10(18.86)
9.	Assistance in range of motion exercises	53(100)	19(35.8)	9(16.9)
10.	Monitoring of surgical site for infection	51(96.2)	45(84.9)	32(60.4)

This table 4 shows that the day wise nursing care needs of the patients with lower limb fracture undergone surgery related to all the participants required management of pain related to surgical site (100%) in day 1-8. All the participants required health education related to follow up (100%) in day 1-6 and reduced to (32.7%) in day 7-8. Assistance in perineal care (100%) in day1-2 which reduced to (98.1%) in day 3-6 and further reduced to (84.9%) in 7-8. All the participants required assistance in self-care (100%) in day 1-2 which reduced to (96.2%) in day 3-6 and further reduced to (86.7%) in day 7-8.

Table 5:- Day wise nursing care need of patient with lower limb fracture post surgery using observational checklist n=53

S. No.	Nursing Care Need	Day 1-2 f (%)	Day 3-6 f (%)	Day 7-8 f (%)
1.	Management of pain	53(100)	53(100)	52(98.1)
2.	Helping in changing position	53(100)	46(87.3)	36(67.9)
3.	Helping in wearing cloths	53(100)	52(98.1)	44(83.1)
4.	Assistance in performing range of motion exercises	53(100)	15(28.3)	12(22.6)
5.	Monitoring of elimination pattern	53(100)	28(52.8)	14(26.4)
6.	Monitoring of dressing site	52(98.1)	52(98.1)	44 (83.1)
7.	Assistance in taking medication	28(52.8)	23(43.3)	8(15.9)
8.	Monitoring of intake/output chart for nutrition	26(50.9)	19(35.8)	13(24.5)
9.	Assistance in oral care for bad odour	26(49.5)	38(71.6)	12(22.6)

This table 5 shows the nursing care need that is all the participants required management of pain (100%) in day 1-6 which reduced to (98.2%) in 7-8. All the participants required assistance in changing position (100%) in day 1-2 which reduced to (87.3%) in day 3-6 and further reduced to (67.9%) in day 7-8. All the participants required assistance in wearing cloths (100%) in day 1-2 which reduced to (98.1%) in day 3-6 and further reduced to (83.1%) in day 7-8.

Table 6:- Association between problem of patient with lower limb fracture undergone surgery and demographic variables by using self reporting checklist N=53.

S. No.	Socio- demographic Variable		Below Median (<66)	At and above median (>±66)	Chi-square	df	p- value
1.	Age (in years)	20- 60	21 (39.62%)	25 (47.16%)	0.722	1	0.3954
		61- 100	2 (3.77%)	5 (9.43%)			
2.	Gender	Male	15 (28.30%)	24 (45.28%)	1.464	1	0.2262
		Female	8 (15.09%)	6 (11.32%)			
3.	Educational	Uneducated	4	7	0.279	1	0.5973

	Status		(7.54%)	(13.20%)			
		Educated	19 (35.84%)	23 (43.39%)			
4.	Marital Status	Unmarried	7 (13.20%)	5 (9.43%)	1.409	1	0.2352
		Married	16 (30.18%)	25 (42.7%)			
5.	Occupation	Employed	13 (24.52%)	14 (26.41%)	0.506	1	0.4768
		Unemployed	10 (18.86%)	16 (30.18%)			
6.	Monthly Income	Below 10,000	7 (13.20%)	10 (18.86%)	0.050	1	0.8230
		Above 10,001	16 (30.18%)	20 (37.73%)			
7.	Dietary pattern	Vegetarian	7 (13.20%)	12 (22.64%)	0.518	1	0.4716
		Non-vegetarian	16 (30.18%)	18 (33.96%)			
8.	Place of living	Rural	9 (16.98%)	13 (24.52%)	0.095	1	0.7579
		Urban	14 (26.41%)	17 (32.07%)			

Table 6 shows that there is a no significant association between the problems of patient and socio- demographic variables at 0.05 level of significance.

Discussion:-

The findings reveal that maximum problem of patient with lower limb fracture undergone surgery in which greatest number of the participant lack of information ensued by fatigue, immobility, sleep disturbance, pain and risk for infection. This research was supported by **Lu et al.** finding revealed that more than half of the patient complaint of sleep disturbance 3 month postoperatively after the surgery⁷

The present study findings shows that all the participants had pain (100%) in day 1-6 which reduced to (98.2%) in 7-8. The research was supported by the finding of a study which was done by **Shang EY, et al. (2017)** At 24 hour after surgery 52.7% patient having moderate pain and 43.9% having severe pain and 7.4% having mild pain. At 48 hour after surgery 54.7% having mild pain, 39.9% having moderate pain, 1.4% having severe pain.⁸

In the present study 80.4% had swelling around surgical site, 100% pain, 86.6% had sleep disturbance, 79.2% unable to change the position. The research was supported by the finding of a study which was done by **Szots K et. al. (2015)** the majority of the patient experienced leg oedema in surgical site (90.7%), pain (81.4%), problem in appetite (38.4%), sleeping disorder (47.7%), (69.8%) unable to perform exercises⁹

In present study nursing care need was management of pain, helping in changing the position, assistance in range of motion exercise, health education about follow up, (55.3%) monitoring and managing the elimination pattern, monitoring of surgical site, monitoring of sleeping pattern. The research was supported by the finding of a study which was done by **Masih N et. al. (2020)** the basic need was identified like information, comfort, recording vitals, pain management, nutritional, medical need, elimination, personal hygiene, prevention of complications and social need.¹⁰

Conclusion:-

The study concluded that majority of patient with lower limb fracture undergone surgery had problem related to pain, immobility, lack of hygiene, sleep disturbance and lack of information which was increased in day 1-2 but reduced as the post operative day increased. Therefore, the nursing care needs of patient were related to management of pain, help in changing position, monitoring of sleeping pattern and monitoring surgical site.

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