



# A STUDY TO ASSESS THE EFFECTIVENESS OF EARLY AMBULATION ON ACTIVITIES OF DAILY LIVING (ADL) AMONG PATIENTS AFTER MINOR ABDOMINAL SURGERIES ADMITTED IN SELECTED HOSPITAL.

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## ABSTRACT:

**BACKGROUND:** Statistics of different countries the number of patients in need of abdominal surgeries has increased during the last 10 years, leading a higher rate of these surgical procedures. Because so many patients need abdominal surgery, it is important to measure and improve the quality of abdominal surgical nursing care to achieve high-quality health services, to shorten patient hospitalization period, and to have economically more effective health care system.

**AIM:** To examine the effectiveness of early ambulation on activities of daily living (ADL) on post-operative abdominal surgery patients and to compare the recovery between male and female patients of a selected demography.

**METHODS:** Descriptive evaluative approach was used. Purposive sampling technique was used to select the hospital and the samples. The samples for present study consisted of male and female patients admitted for

minor abdominal surgeries (60 patients). Tool consisted of two sections: **Section A:** - Demographic variables: - age in years, gender, marital status, educational qualification, occupation, dietary pattern, demographic area, type of surgery.

**Section B:** - Observation checklist aimed at assessing the effectiveness of early ambulation of Daily Living, following ADL were assessed viz: feeding, dressing, grooming, bathing, elimination, Deep Breathing Exercises, communication and sleeping pattern. Activity on post operative abdominal surgery patients in selected hospitals.

Content Validity was done by 12 experts, Reliability was done by using inter rater reliability method. Cohen's kappa was found to be 0.85 The tool was retained as the tool was reliable. Dorothea Orem's Self-care theory was applied. Pilot study was conducted in Moriya Hospital Chinchwad. Informed consent was taken from Medical Superintendent of the Hospital and from each and every sample. from 9/2/2022 to 12/2/2022 on 6 samples of minor abdominal surgery.

Final study was conducted at Dr D.Y.Patil Hospital and Research Centre from 17/3/2022 to 29/4/2022 on 60 post operative patients. Objective of the study was discussed and consent for participation in the study was taken from each and every sample. The subjects were assured about the confidentiality of the data. The investigators themselves collected the data. Preoperatively Activities of Daily Living were taught each and every patient. Patients with minor surgeries (appendectomy, cholecystectomy, hernia or colon surgery) were selected. On Day 1 post operatively both Activities of Daily Living and ambulation was done twice a day for 10-15 minutes per patient. Activities of Daily Living included range of motion of shoulder joint, elbow, wrist joint, hip joint, knee joint and ankle joint. Early ambulation included walking around the bed, with or without assistive devices. ADL and early ambulation was done in consultation of surgeon. Per day per day 3-4 patients were selected. Data was analysed based on objectives of the study. Descriptive and inferential statistics was done.

**HYPOTHESIS: H<sub>1</sub>:** There will be significant positive changes that will be observed amongst patient who have undergone minor abdominal surgery after introduction of early ambulation on Activities of Daily Living (ADL).

**RESULTS:** The mean score was 0.0% for patients who had a poor score (Score 0-5), 33.3% of them had an average ability in performing ADL (Score 6-10), and 66.7% of the patients had a good score (Score 11-16). Hence it can be concluded that early ambulation is highly effective with Activities of Daily Living (ADL) among patients after minor abdominal surgeries.

**CONCLUSION:** The various findings of the study show that it can be concluded that early ambulation is proven to be effective in decreasing post-operative complications among patients following abdominal surgery.

**KEYWORDS:** Activities of Daily Living (ADL); abdominal surgeries; post-operation; recovery; effectiveness; patients.

**INTRODUCTION:** Activities of daily living (ADL) is a term used in healthcare to refer to people's daily self-care activities. Health professionals often use a person's ability or inability to perform ADL as measurement of their functional status. The concept of ADL was originally proposed in the 1950s by Sidney Katz and his team at the Benjamin Rose Hospital in Cleveland, Ohio. The activities of daily living (ADLs) are a term used to collectively describe fundamental skills required to independently care for oneself, such as eating, bathing, and mobility. The term activities of daily living were first coined by Sidney Katz. <sup>1</sup>

ADL is often used in the case of people with disabilities, people with injuries, elderly people and people who have undergone surgeries (minor or major). Minor abdominal surgeries refer to the minor surgical procedure in a sterile field done in a person's abdominal region to diagnose or treat a medical condition. The purpose of this study is to find out the effectiveness of early ambulation on activities of daily living in patients who have undergone minor abdominal surgeries and the recovery rate between male and female patients of a selected demography.

Early ambulation involves an upright position appears to be of great benefits in the early postoperative period with evidence of improvement in pulmonary function.<sup>2</sup> Early ambulation is an effective nursing intervention applied to prevent complications (pulmonary complications, decreased skeletal muscle strength, thromboembolic complications, and insulin resistance) related to immobility and to accelerate recovery, and it is a fundamental part of nursing care practices. In addition, early ambulation is an important component of Enhanced Recovery After Surgery (ERAS) protocols which are aimed to accelerate postoperative healing. <sup>3-6</sup>

#### **OBJECTIVES OF THE STUDY:**

1. To assess the effectiveness of early ambulation on activities on daily living (ADL) on post-operative abdominal surgery patients.
2. To compare the post-operative recovery of patients between male female patients of selected demography.

**STATISTICAL ANALYSIS:** Analysis and interpretation of data were based on the objectives of the study. Both descriptive and inferential statistics were used to analyse the data, the investigator utilized both descriptive as well as inferential statistics for analysis and interpretation of the obtained data.

#### **RESULTS:**

##### **SECTION I**

**Description of samples (post-operative abdominal surgery patients) based on their personal characteristics**

**Table 1: Description of samples (post-operative abdominal surgery patients) based on their personal characteristics in terms of frequency and percentage.**

n=60

Sr. No.	DEMOGRAPHIC DATA	quency (f)	rcentage (%)
1)	<b>Age</b>		
	30 years or less	10	16.7
	31-40 years	27	45.0
	41-50 years	18	30.0
	51 years and above	5	8.3
2)	<b>Gender</b>		
	Male	28	46.7
	Female	32	53.3
3)	<b>Educational qualification</b>		
	No formal qualification	8	13.3
	Primary	18	30.0
	Secondary	28	46.7
	Professional qualification	6	10.0
4)	<b>Monthly family income</b>		
	Below Rs. 10,000/-	3	5.0
	Rs. 10,000 to 20,000/-	40	66.7
	Above Rs. 20,000/-	17	28.3
<b>SR. NO.</b>	<b>DEMOGRAPHIC DATA</b>	<b>FREQUENCY (f)</b>	<b>PERCENTAGE (%)</b>
5)	<b>Occupation</b>		
	Labourer	13	21.7
	Agriculture	25	41.6

	Others	22	36.7
6)	<b>Marital status</b>		
	Single	12	20.0
	Married	46	76.7
	Divorced	2	3.3
7)	<b>Family type</b>		
	Nuclear	37	61.7
	Joint	23	38.3
8)	<b>Dietary pattern</b>		
	Vegetarian	19	31.7
	Non-vegetarian	41	68.3
9)	<b>Demographic variable</b>		
	Area		
	Urban	30	50.0
10)	Rural	30	50.0
	<b>Surgery</b>		
	Minor abdominal surgery	60	100.0

The above table 1 shows that (10) 16.7% of the post-operative abdominal surgery patients had age up to 30 years, (27) 45% of them had age 31-40 years, (18) 30% of them had age 41-50 years and (5) 8.3% of them had age above 50 years. It even shows us that (28) 46.7% of them were males and (32) 53.3% of them were females. In the selected demography (8) 13.3% of them did not have formal qualification, (18) 30% of them had primary education and (28) 46.7% of them had secondary education and (6) 10% of them had professional qualification. It even shows (3) 5.0% of them had monthly family income up to Rs. 10000, (40) 66.7% of them had family income Rs.10000-20000 and (17) 28.3% of them had monthly family income above Rs. 20000. According to qualification and professional data (13) 21.7% of them were labourers, (25) 41.6% of them had agricultural background and (22) 36.7% of them had other occupations. According to marital status (12) 20% of them were single, (46) 76.7% of them were married and (2) 3.3% of them were divorced. On basis of family or social groups (37) 61.7% of them had nuclear family and (23) 38.3% of them had joint family. We even took into consideration the nutrition pattern of the individuals where we found (19) 31.7% of them were vegetarian and (41) 68.3% of them were non-vegetarian. As environment has a huge impact on one's individual health, we even took into consideration the environmental differences among the patients where we found (30) 50% of them were from urban area and (30) 50% of them were from rural area. And finally in the type of surgery taken for the study did not include any major operations and therefore all of them had minor abdominal surgery.

n=60

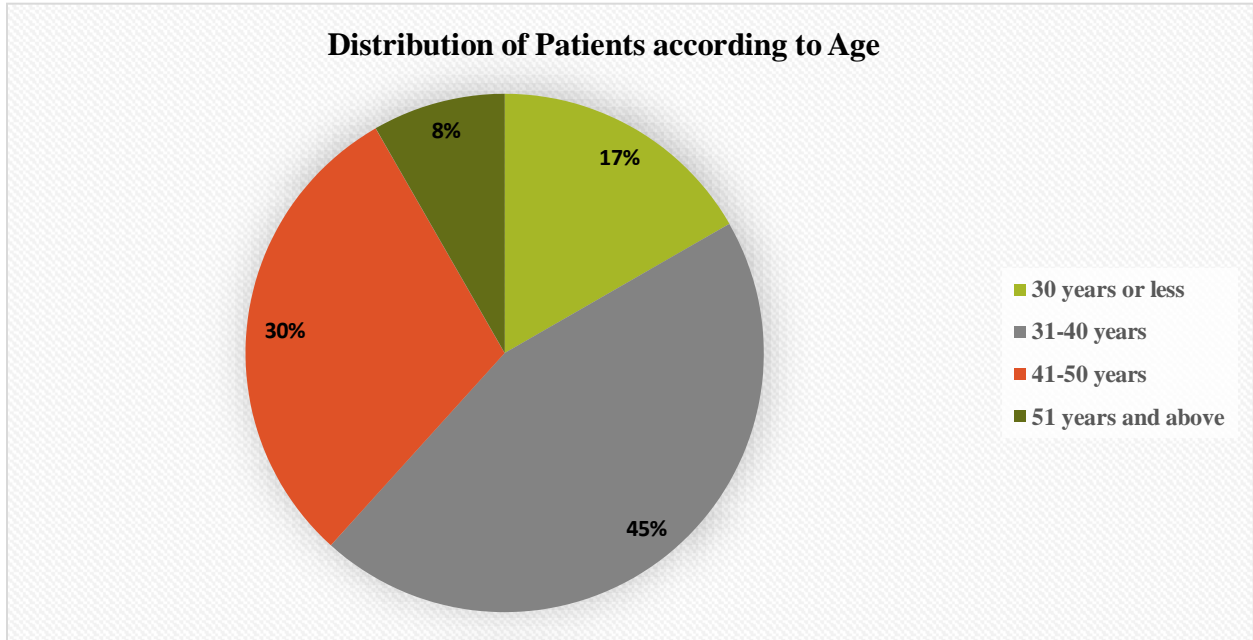
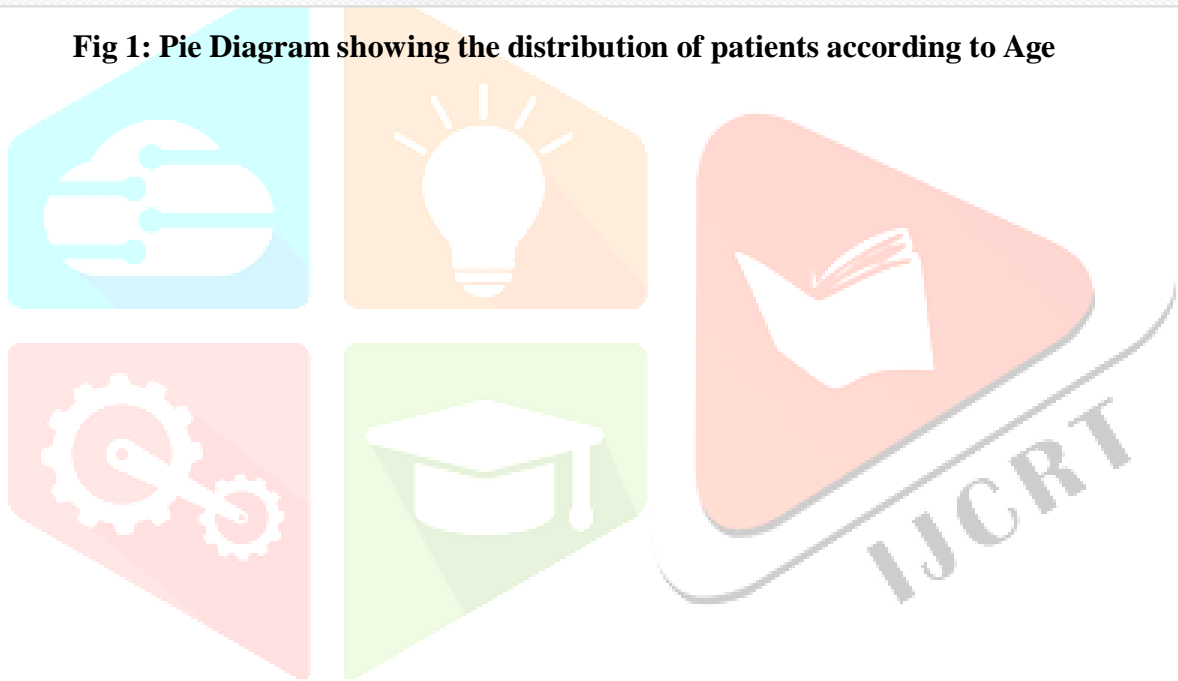


Fig 1: Pie Diagram showing the distribution of patients according to Age



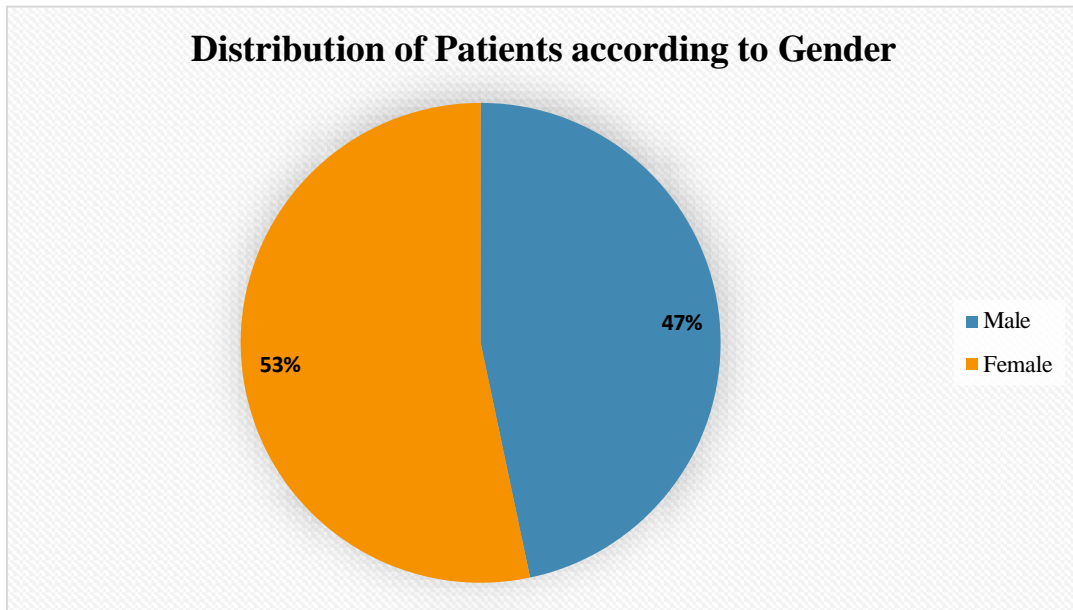


Fig 2: Pie Diagram showing distribution of patients according to Gender

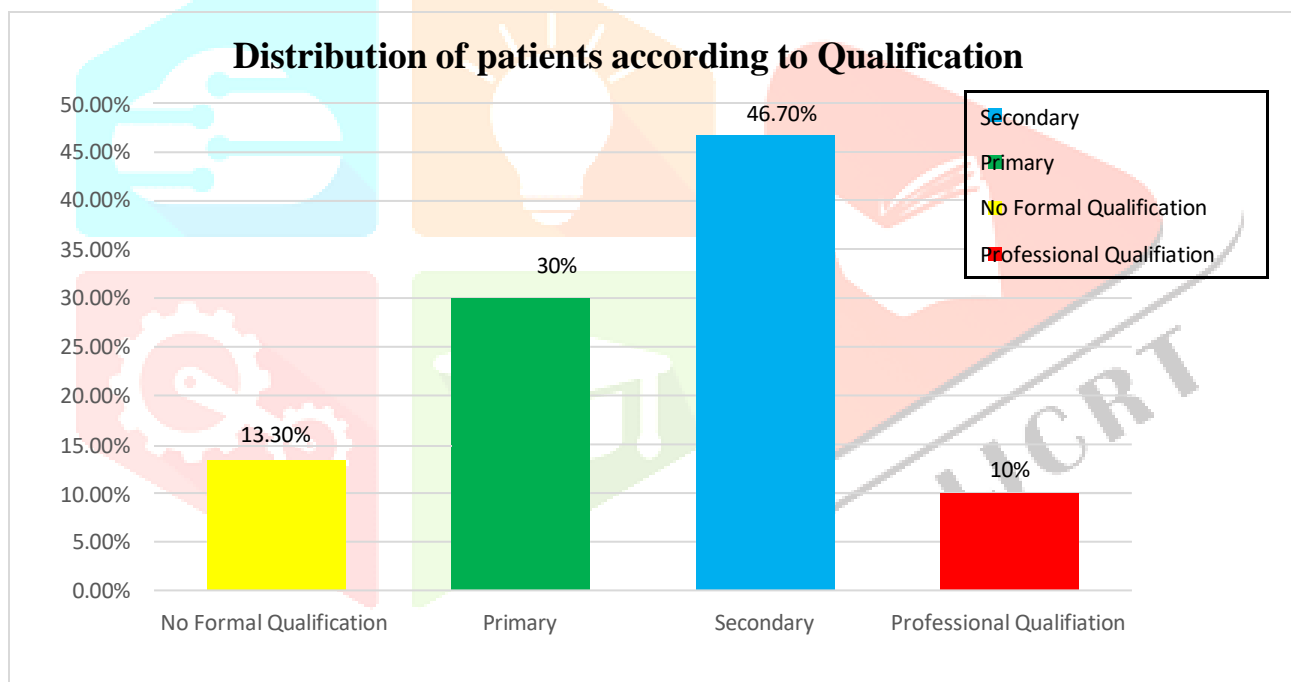
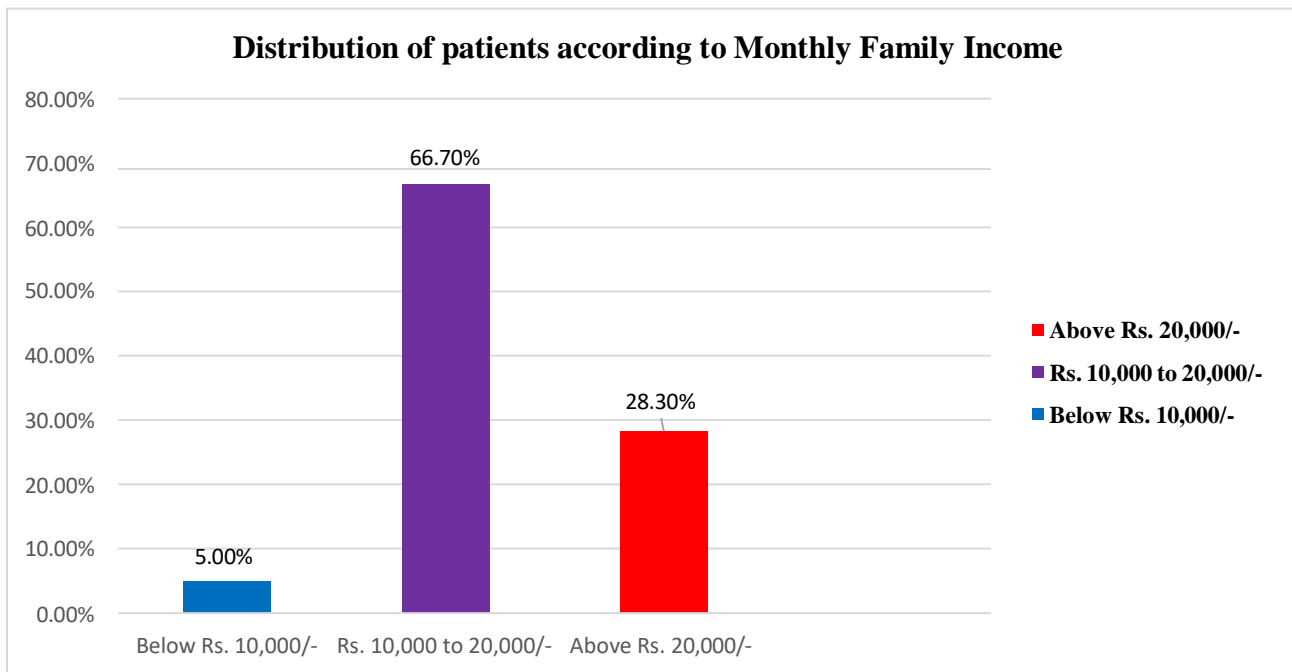
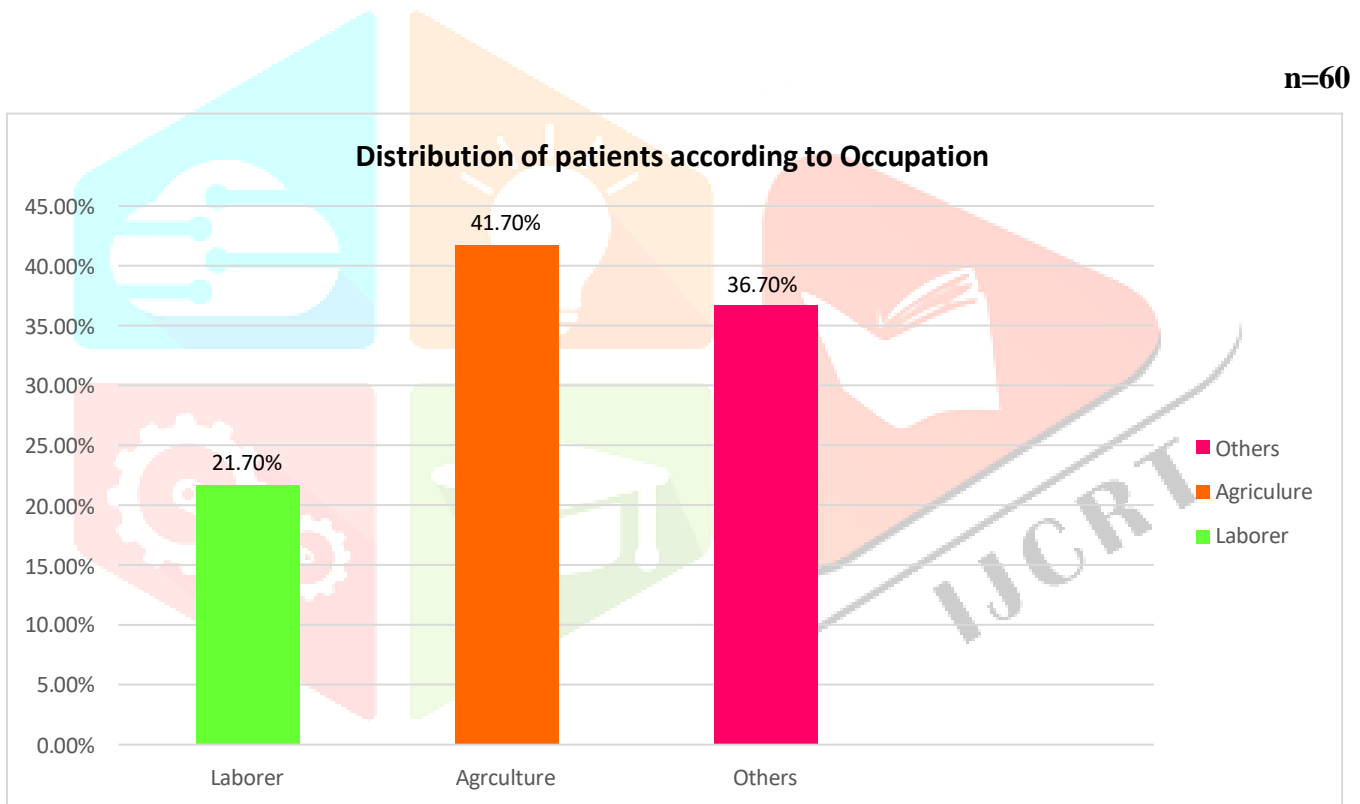


Fig3: Bar Graph showing distribution of patients according to Qualification



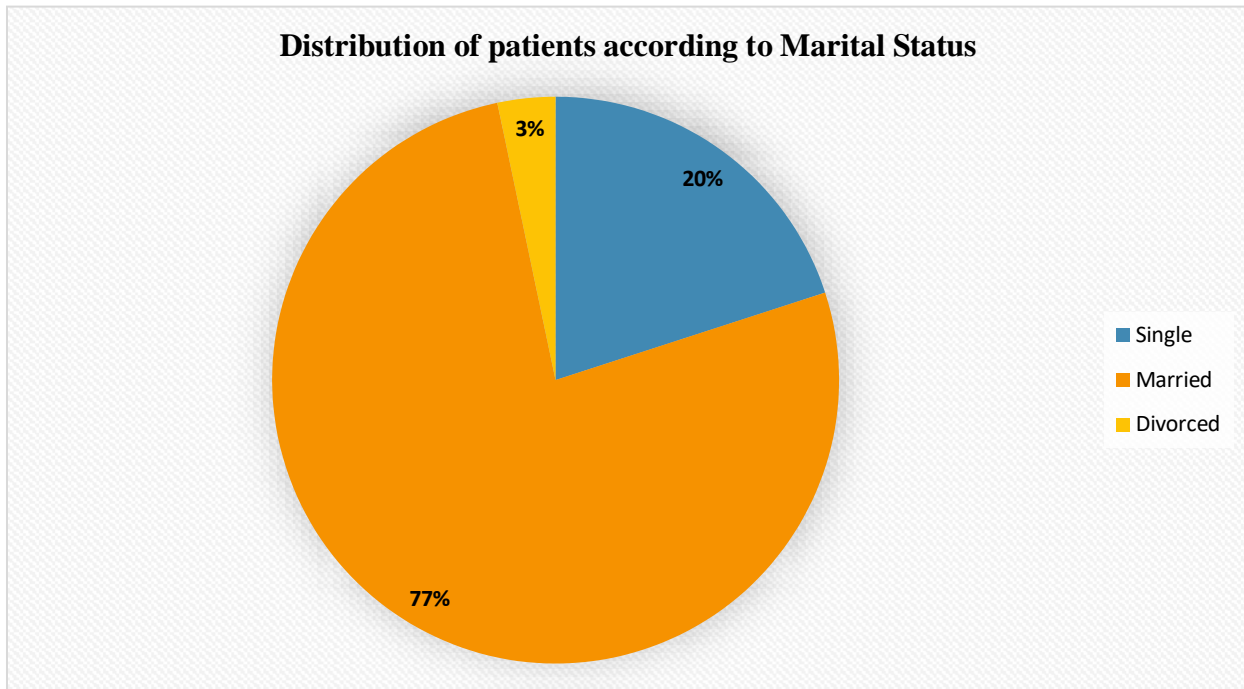
**Fig 4: Bar Graph showing distribution of patients according to Monthly Family Income**



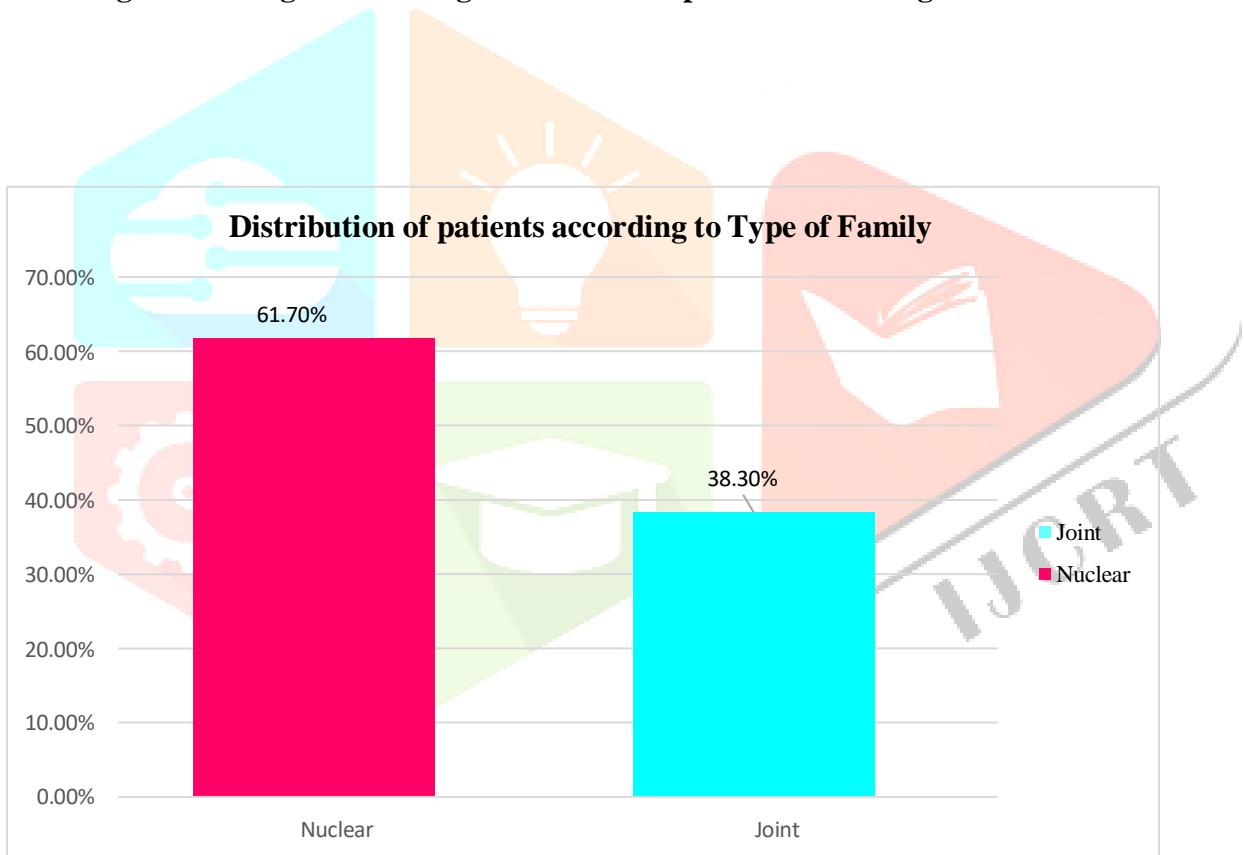
**Fig 5: Bar Graph showing the distribution of patients according to Occupation**

n=60





**Fig 6: Pie Diagram showing distribution of patients according to Marital Status**



**Fig 7: Bar Graph showing distribution of patients according to Type of Family**

n=60

n=60

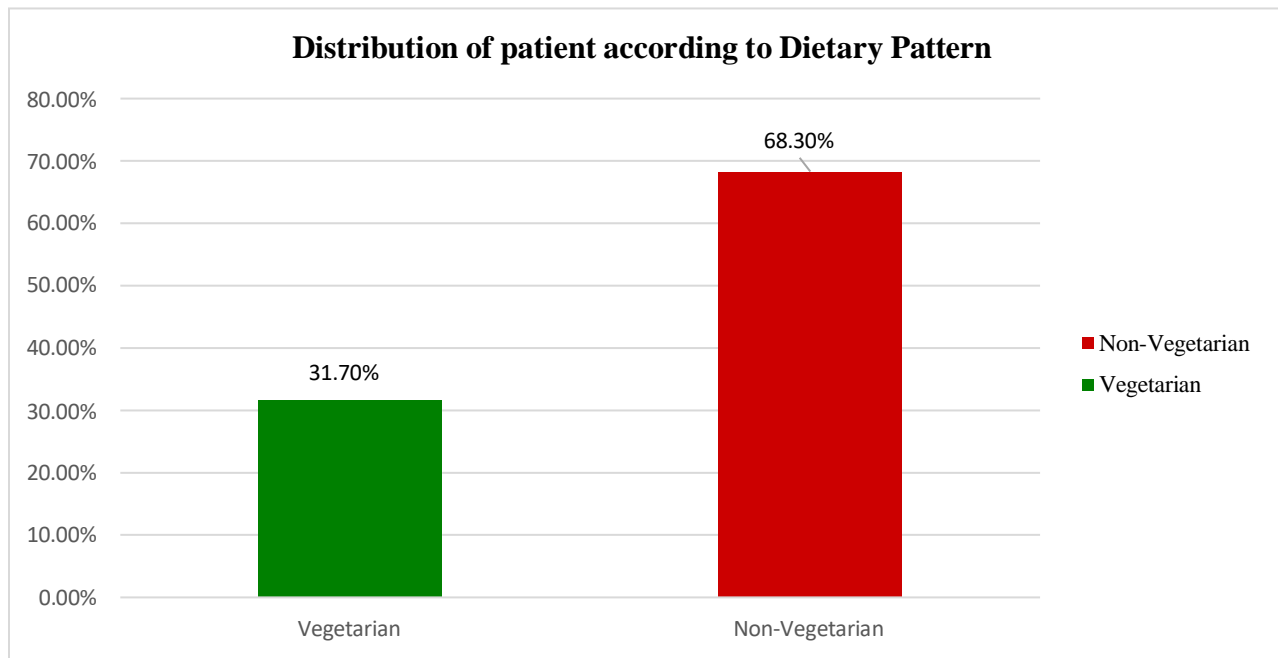


Fig 8: Bar Graph showing distribution of patients according to Dietary Pattern

n=60

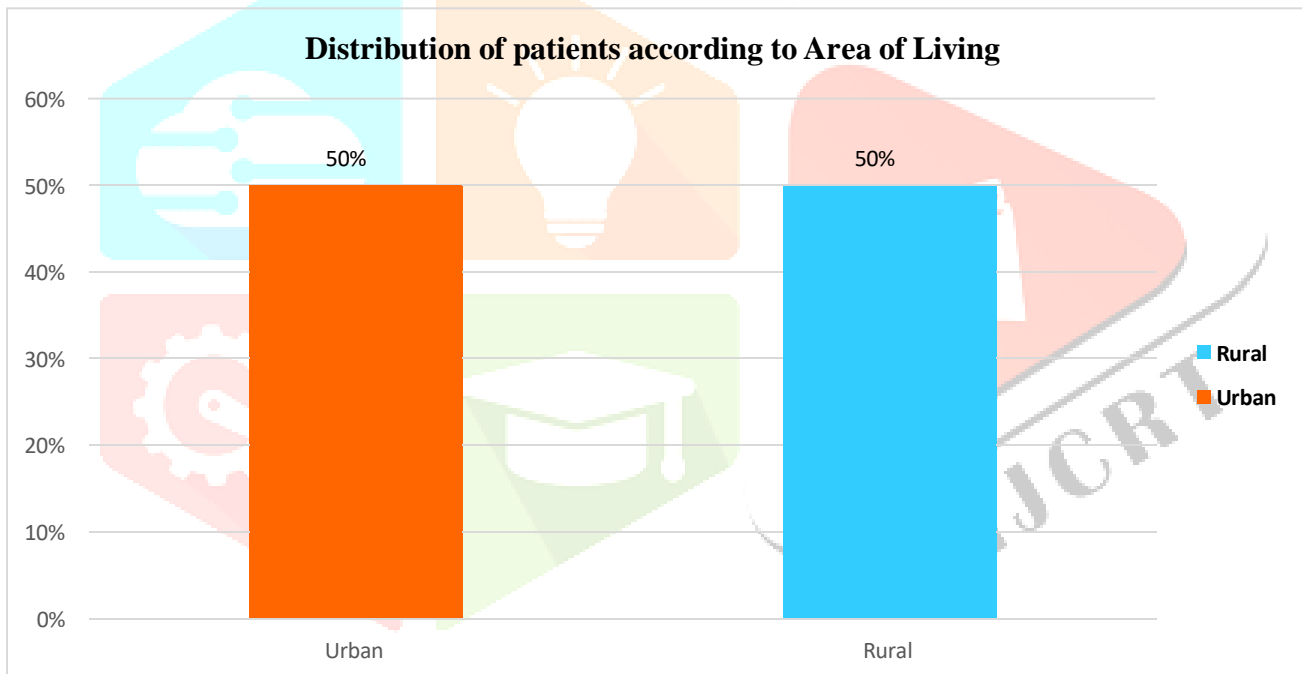


Fig 9: Bar Graph showing the distribution of patients according to Area of Living

## SECTION II

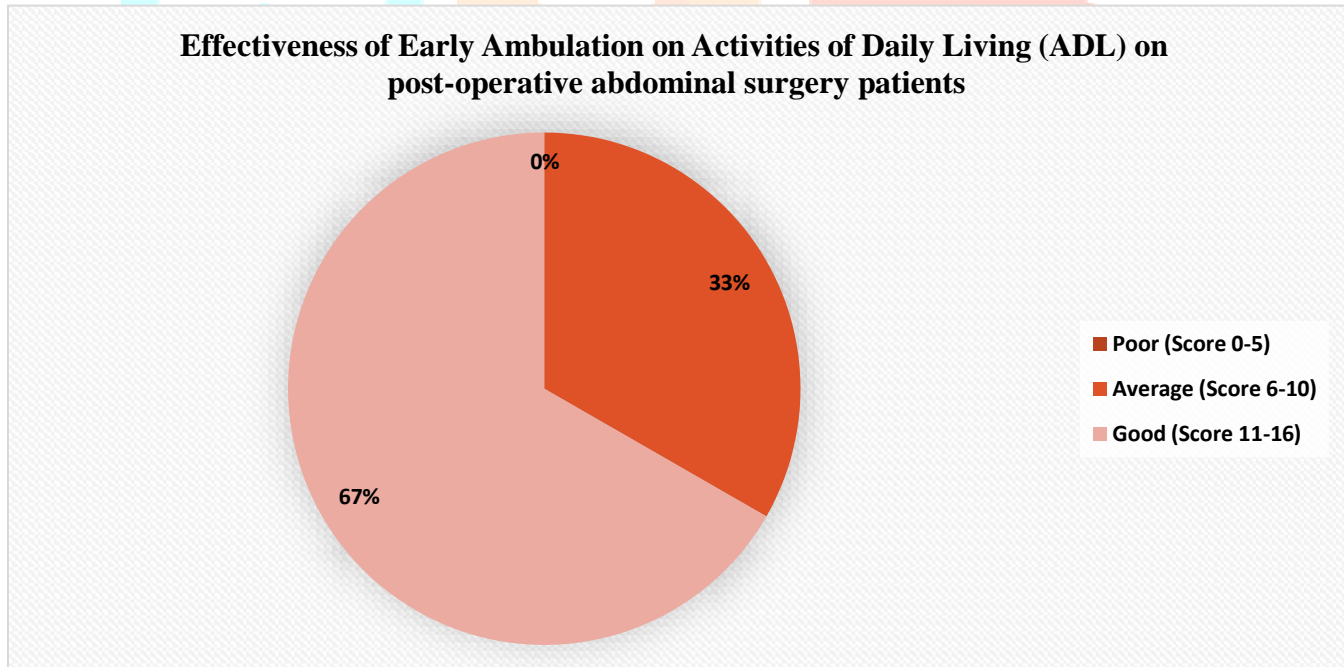
**Table 2: Effectiveness of early ambulation on activities of daily living on post-operative abdominal surgery patients.**

n=60

SR. NO.	ACTIVITIES OF DAILY LIVING (ADL)	Frequency (f)	Percentage (%)
1)	Poor (score 0-5)	0	0.0
2)	Average (score 6-10)	20	33.3
3)	Good (score 11-16)	40	66.7

It was noticed that (20) 33.3% of the post-operative abdominal surgery patients had **average** Activity of Daily Living (ADL) with (score 6-10).and (40) 66.7% of them had **good** activity of daily living (score 11-16).This indicates that the early ambulation is effective in improving the activities of daily living among post-operative abdominal surgery patients.

n=60



**Fig 10: Pie chart showing effectiveness of early ambulation on, Activities of Daily Living on post- operative abdominal surgery patients.**

**Table 3: Item analysis: -Effectiveness of early ambulation on activities of daily living on post-operative abdominal surgery patients.**

n=60

Sr. No.	Activity of daily living	Dependent on other		Partially independent		Independent	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1)	Feeding	2	3.3	25	41.7	33	55.0
2)	Dressing	2	3.3	30	50.0	28	46.7
3)	Bathing	17	28.4	32	53.3	11	18.3
4)	Grooming	17	28.3	34	56.7	9	15.0
5)	Elimination	14	23.3	33	55.0	13	21.7
6)	Breathing exercise	0	0.0	5	8.3	55	91.7
7)	Communication	0	0.0	2	3.3	58	96.7
8)	Sleeping	2	3.3	0	0.0	58	96.7

The above table shows that (33) 55% of the post-operative abdominal surgery patients had independent feeding, it even tells us that (25) 41.7% of them were partially dependent for feeding and (2) 3.3% of them were dependent on others for feeding, with that the first part of activities of daily living that is feeding has been covered.

The next activity that is dressing in which we see (28) 46.7% of the post-operative abdominal surgery patients had independent dressing, and (30) 50% of them were partially dependent for dressing and (2) 3.3% of them were completely dependent on others for dressing.

The third activity that is bathing in which we recorded (11) 18.3% of the post-operative abdominal surgery patients had independent bathing, and (32) 53.3% of them were partially dependent for bathing and (17) 28.3% of them were dependent on others entirely for bathing.

The fourth activity that is grooming in which we see (9) 15% of the post-operative abdominal surgery patients had independent grooming, (34) 56.7% of them were partially dependent for grooming and (17) 28.3% of them were dependent on others for grooming.

In the fifth activity that is elimination we saw (13) 21.7% of the post-operative abdominal surgery patients had independent elimination, (33) 55% of them were partially dependent for elimination and (14) 23.3% of them were dependent on others for elimination. The last three activities are the most basic activities that are done by a human being and therefore these activities had the highest independence rate. The sixth activity that was for breathing exercise we see (55) 91.7% of the post-operative abdominal surgery patients had independent Breathing

exercise and (5) 8.3% of them were partially dependent for Breathing exercise.

We saw the same percentage for the last two activities that was the seventh which was communication post-surgery where we saw (58) 96.7% of the post-operative abdominal surgery patients had independent Communication and (2) 3.3% of them were partially dependent for Communication. And the same percentage for the eighth that is the last activity taken into consideration for our evaluation in this we saw (58) 96.7% of the post-operative abdominal surgery patients had independent sleeping and (2) 3.3% of them were dependent on others for sleeping.

n=60

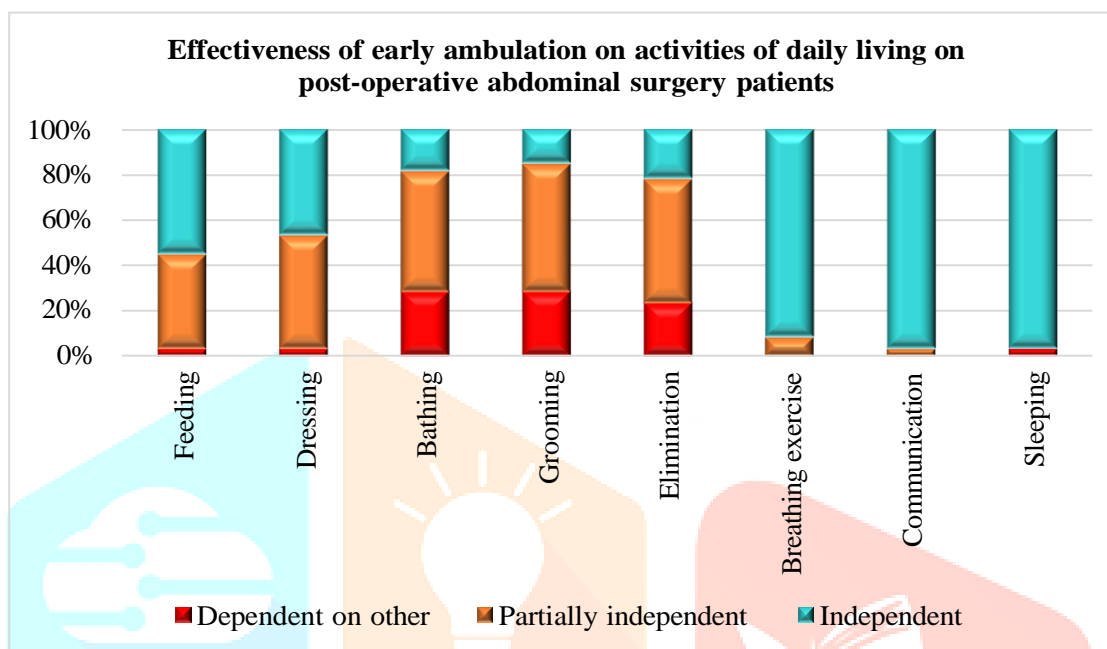


Fig 11: Bar graph showing effectiveness of early ambulation on, Activities of daily living on post-operative abdominal surgery patients per activity

SECTION III

Table-4: Fisher’s exact test for the comparison of post-operative recovery of patients by gender.

n=60

SR. NO.	GENDER	OF DAILY LIVING (ADL)		p-VALUE
		Average	Good	
1.	Male	8	20	0.585
2.	Female	12	20	

Researcher applied Fisher’s exact test for the comparison of post-operative recovery of post-operative abdominal surgery patients by gender.

Since p-value for this test was large (greater than 0.05), the post-operative recovery of post-operative abdominal

surgery patients is not significantly differing by gender of the post-operative abdominal surgery patients. Hence  $H_1$  is accepted, i.e.,

**H<sub>1</sub>:** There will be significant positive changes that will be observed amongst patient who have undergone minor abdominal surgery after introduction of early ambulation on Activities of Daily Living (ADL).

## CONCLUSION:

Early ambulation is proven to be effective in decreasing post-operative complications among patients following abdominal surgery. The study also assumes that early ambulation is an accepted strategy for improving recovery among patients following abdominal surgery. In this study the independent variable is the early ambulation, it is the effect of the section of the independent variable. The independent variable is the study of post-operative complications among patients following abdominal surgery.

In this partially compensatory system, the nurse's action is, to do early ambulate the patient and provide support to the patient during ambulation exercises.

Development of the observational checklist involved the steps, Item writing, Content Validation, and reliability of the observational checklist done on patients following abdominal surgery in the male-female surgical ward of Dr. D.Y. Patil Hospital and Research Centre, Pimpri, Pune 18.

To ensure effectiveness, early ambulation was done for patients following abdominal surgery for steps. The data was collected, after permission was taken from the medical superintendent of hospitals. The data was collected through the observational checklist. The data gathered using descriptive & inferential levels of significance analysed statistics set for testing. The hypothesis was 0.05 according to which it was termed that the hypothesis for this research has been accepted.

There is an association between the post-operative complications & variable such as the weight of patients as on 5% level of significance p-value is 0.05.

The various findings of the study show that it can be concluded that early ambulation is proven to be effective in decreasing post-operative complications among patients following abdominal surgery.

According to the hypothesis for this study i.e.,

**H<sub>1</sub>:** There will be significant positive changes that will be observed amongst patient who have undergone minor abdominal surgery after introduction of early ambulation on Activities of Daily Living (ADL).

## REFERENCES: -

- 1) Katz S. Assessing self-maintenance: activities of daily living, mobility, and instrumental activities of daily living. J Am Geriatr Soc.
- 2) Brieger, G.H. Brieger, Early ambulation: a study in the history of surgery, Annals of Surgery.
- 3) Morris BA, Benetti M, Marro H, Rosenthal C. Clinical practice guidelines for early mobilization hours after surgery. Orthopaedic Nursing.

- 4) Kibler V, Hayes R, Johnson D, Anderson L, Just S, Wells N. Early postoperative ambulation: Back to basics.
- 5) Nesbitt JC, Deppen S, Corcoran R, et al. Postoperative ambulation in thoracic surgery patients: Standard versus modern ambulation methods. *Nursing in Critical Care*.
- 6) Gustafsson UO, Scott MJ, Hubner M, et al. Guidelines for perioperative care in elective colorectal surgery: enhanced recovery after surgery (ERAS) society recommendations: *World J Surgery*.

