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*International Journal of Current Research*
*Vol. 9, Issue, 07, pp.55109-55111, July, 2017*

**INTERNATIONAL JOURNAL OF CURRENT RESEARCH**

**ISSN: 0975-833X**

## REVIEW ARTICLE

# IMPACT OF DIETARY SUPPLEMENTS OF VITAMIN 'E 'ON IMMUNE SYSTEM

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**ARTICLE INFO**

***Article History:***
Received 16th April, 2017
Received in revised form
15th May, 2017
Accepted 10th June, 2017
Published online 31st July, 2017

***Key words:***
Vitamin, Vitamin E,
Supplements, Diet,
HIV, Women, CD4,
Immune System,
Almond Milk.

**ABSTRACT**

A balanced diet is important for everybody Health. Carbohydrate, Protein, and fats were a source for providing energy to human beings, vitamins were very tiny but play a vital role in maintaining the equilibrium of all functions in our body. An Experimental study was done among 100 HIV infected women to estimate an impact of dietary supplements of vitamin E on immune system parameters. Women were selected randomly using lottery method. Data was collected through structured Questionnaire and CD4 Count was recorded. After Pretest 100 ml of freshly prepared almond milk were given to drink twice/week for 12 weeks, follow up was done. At end of 6 months, again CD4 count was assessed. The study findings explored that dietary supplementation of Vitamin E has a significant impact on improving CD4 Count in HIV infected women.



**Citation: Meenakumari, N. 2017.** "Impact of dietary supplements of vitamin 'e 'on immune system", *International Journal of Current Research*, 9, (07), 55109-55111.

## INTRODUCTION

A balanced diet is important for everybody Health. Carbohydrate, Protein, and fats were a source for providing energy to human beings, vitamins were very tiny but play a vital role in maintaining the equilibrium of all functions in our body. Now a days world become small and everything becomes globalized, even diseases too, one such disease is HIV/AIDS. In the world, nearly half of the women were suffering among total HIV infected person. Indian women were culturally bound, and most of the time they will take care of their family and neglecting taking care of their own health and not taking healthy food.

### Objectives

This study was intended to estimate an impact of dietary supplements of vitamin E on immune system among HIV infected women.

## MATERILAS AND METHODS

An Experimental study was done to estimate an impact of dietary supplements of vitamin E on immune system parameters among HIV infected women.

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The design chosen for this study was experimental one group pretest - posttest design.

**Sample:** 100 HIV infected women were selected by random sampling using lottery method.

### Inclusion Criteria

- Woman aged < > 18-49 years irrespective of their marital status.
- Women infected with HIV and registered in ART Centre and taking ART drug.
- Woman who are resident of Chennai district, since for last 5 years.
- Woman willing to participate.

### Exclusion Criteria

- Migrated woman from other districts, states or countries.
- Woman in AIDS stage CD4 < 250.
- Woman suffering from any Immune- depressive disorder other than AIDS.

### Instrument

The instrument used had 2sections.

**Section 1:** Structure questionnaire for Baseline Data.
**Section 2:** Clinical Data

**Data collection procedure**

Brief introduction about self and study has given and Informed consent had obtained from the women. The researcher visited ART center and recruited samples based upon sampling criteria. Baseline data were collected and CD4 count was noted.100 ml of almond milk which was freshly prepared by 30 grams of soaked Almonds were given to drink twice/week for 12 weeks at their respective residential place. Follow up was done 3 more months. After completion of 6 months, CD4 count was assessed.

## RESULTS

**Section-A:** Description of Base Line Data

**Table 1. Frequency and percentage distribution of demographic data**

**N-100**

| S.No | Baseline Data | F | % |
|---|---|---|---|
| 1 | Age in Years | | |
| | 18-25 Yrs | 0 | 0% |
| | 26-35 Yrs | 19 | 19% |
| | 36-45 Yrs | 66 | 66% |
| | 46-49 Yrs | 15 | 15% |
| 2 | Educational Qualification | | |
| | Minimal Education | 23 | 23% |
| | Primary Class | 34 | 34% |
| | Elementary Class | 18 | 18% |
| | High School | 18 | 18% |
| | Secondary School | 7 | 7% |
| 3 | Occupational Status | | |
| | Un Employed | 17 | 17% |
| | Private Employee | 53 | 53% |
| | Public Employee | 1 | 1% |
| | Self Employed | 9 | 9% |
| | Coolie works | 20 | 20% |
| 4 | Marital Status | | |
| | Married | 38 | 38% |
| | Un Married | 2 | 2% |
| | Separated | 7 | 7% |
| | Widow | 53 | 53% |
| 5 | Monthly Income | | |
| | Below 2500 | 54 | 54% |
| | Rs. 2501-5000 | 31 | 31% |
| | Rs. 5001-7500 | 13 | 13% |
| | Rs. 7501-Above | 2 | 2% |
| 6 | HIV Status Known Years | | |
| | <2 | 14 | 14% |
| | 4 | 9 | 9% |
| | 6 | 15 | 15% |
| | 8 | 15 | 15% |
| | >10 | 47 | 47% |
| 7 | BMI | | |
| | Healthy | 70 | 70% |
| | Obese | 3 | 3% |
| | over weight | 16 | 16% |
| | Under Nourished | 11 | 11% |

Table 1 Shows that majority of women (66%) were aged 36 to 45 years, and more. Than half of the woman completed only primary education, majority (53%) were widowed. Table 2 shows the description of CD4 count. Mean of CD4 Count in pretest was 663 where as in posttest was 708, similarly median was 637, 712 in both pretest and posttest level respectively. Both the pretest and posttest level of CD4 Count were normally Distributed.

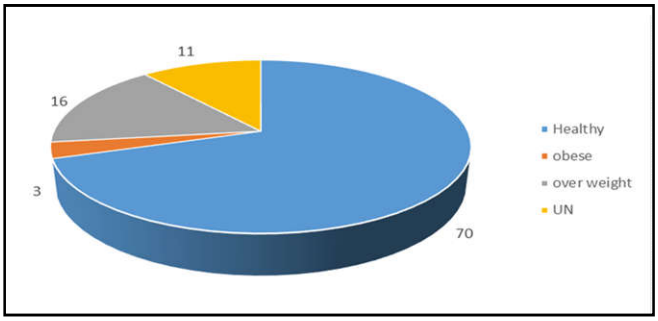


**Figure 1. Frequency Distribution of BMI**

**Section- B Description of Immune system parameters**

**Table 2. Description of CD4 Count**

| S.no | CD4 Count | Pretest | Post Test |
|---|---|---|---|
| 1 | Mean | 663 | 708 |
| 2 | Median | 637 | 712 |
| 3 | Mode | 410 | 352 |
| 4 | Standard Deviation | 283 | 289 |
| 5 | Skewness | 0.9 | 0.7 |

**Section – C Effectiveness of Dietary supplements of Vitamin E on immune system**

**Table 3. Comparison of pretest and posttest level of CD4 Count**

| S.No. | CD4 Count | Mean | SD | Mean Difference | Paired 't' test value | P value |
|---|---|---|---|---|---|---|
| 1 | Pretest | 663 | 283 | 45 | 5.34 | 0.00001*** |
| 2 | Post test | 708 | 289 | | | S |

*** Significant at $p<0.01$

Table 3 shows the comparison of mean, SD, mean difference of CD4 count in HIV. Infected women. The Calculated paired't'test value was=5.34, p value of 0.000 significant at $p<0.01$ level result shows that there was a significant difference between Pretest and posttest level of CD4 Count.

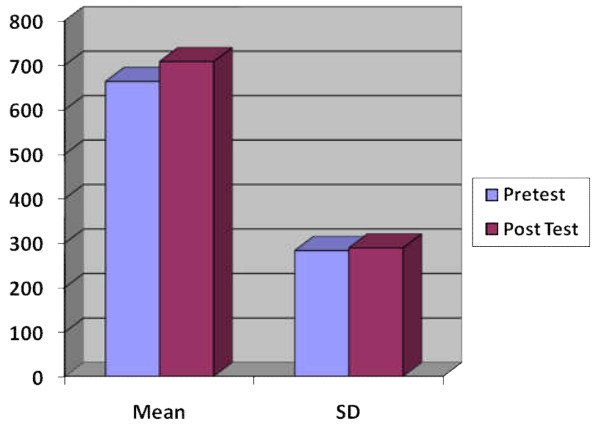


**Figure 1. Comparison of CD4 Count**

## DISCUSSION

This chapter discusses the findings of the study derived from the statistical analysis and its pertinence to the objectives set for the study and related literature of the study. The study was conducted to In order to estimate effectiveness of dietary supplements of Vitamin E on immune system Parameters

among HIV infected women. 100 HIV infected women were selected randomly using lottery method. Data was collected through structured Questionnaire and CD4 Count was recorded. After Pretest 100 ml of almond milk were given to drink twice/week for 12 weeks, follow up was done. At end of 6 months, again CD4 count was assessed. The findings of the study have been discussed with the reference to the objectives. The findings of the study based on the objectives were

**Estimation of effectiveness of Dietary supplements of Vitamin E on Immune system**

In pretest Mean of CD4 Count was 663 where as in posttest was 708, comparison of Mean, SD, mean difference of CD4 count in HIV Infected women, Calculated paired't' test value was=5.34, p value of 0.000 which was significant at $p<0.01$ level result shows that there was a significant difference between Pretest and posttest level of CD4 Count.

**Correlation between BMI and CD4 Count**

The mean difference between pretest and posttest level of CD4 Count was 48 mean of BMI was 23 and calculated co relation between BMI and CD4 Count was 0.036 thus there was a less positive correlation between BMI and CD4 Count.

**Conclusion**

The study findings revealed that dietary supplementation of Vitamin E has a significant impact on improving CD4 Count in HIV infected women, and BMI had a Positive Correlation with the CD4 count, thus eating Healthy food play a major role in maintaining our immune system and also to maintain an optimum Health. Further research was needed to know the impact on their life span.

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