e - ISSN – 2349-0691

AMERICAN JOURNAL OF ADVANCES IN NURSING RESEARCH

Journal homepage: www.mcmed.us/journal/ajanr

EFFECTIVENESS OF FRESH GUAVA LEAVES EXTRACT ON REDUCING RANDOM BLOOD GLUCOSE LEVEL AMONG ELDERLY WITH TYPE 2 DIABETES MELLITUS IN SELECTED VILLAGE

Ajitha E[1]*, DR. Lizy Merlin Lisha[2]

[1]Associate Professor, Sardar Rajas College of Nursing, Kavalkinaru, Tirunelveli, Tamilnadu, India.
[2]Principal, Sardar Rajas College of Nursing, Kavalkinaru, Tirunelveli, Tamilnadu, India.

Article Info

Received 25/07/2024
Revised 10/08/2024
Accepted 30/08/2024

Key word:
Fresh guava leaves extract; Random blood glucose level; Elderly; Type 2 diabetes mellitus

ABSTRACT

India had the highest prevalence of (68 million) diabetes among Asian countries. The main objective of the study was to compare the pretest and post test level of random blood glucose among elderly with type 2 diabetic mellitus in experimental and control group. An quasi experimental non randomized control group design was used to sample of 30 type 2 diabetic elderly people (15 experimental group and 15 in control group)is selected by using non probability convenient sampling technique 50 ml of guava leaves extract was given to the elderly people in the experimental group two hour after breakfast daily for 7 days. The tools used for the study include structured interview and observation method using of glucometer. Result of the study finding showed that there was significant ($p<0.05$) level with confidence interval 90% reduction in blood glucose after administering guava leaves extract in the experimental group. The study reveals that the greater significance of guava leaves extract was observed in the age group of 60-80 years. Guava leaves are cost effective, easily available knows by all people and improves the general well being of the people. Preventing them from developing complication and reduce the dosage of the drug

INTRODUCTION

Diabetic mellitus is a metabolic disease, involving inappropriately elevated blood glucose levels. Type 2 diabetes is a chronic disease. It is characterized by high levels of sugar in the blood. Type 2 diabetes is also called type 2 diabetes mellitus and adult –onset diabetes. That's because it used to start almost always in middle and late adulthood. Psidium guajava L., also known as guava is a member of the myrtle family (Myrtaceae), which is cultivated in many tropical and sub tropical regions as fruit. Guava leaves are the most important part of medicinal purposes.

Corresponding Author
Ajitha E

Email:- ajitha0803@gmail.com

Traditionally, the guava leaves are used as herbal medicine for the prevention and treatment of diseases. Nowadays, people also use extracts from its fruit, bark or roots for their anti-microbial, hepatoprotective, anti-diabetic and anti inflammatory properties. Guava leaf extract was given the effects within one week and randomly reducing blood glucose level as 10% from the high level of glucose within one week recommended by International Diabetes Federation.

Statement of the Problem

A study to assess the effectiveness of fresh guava leaves extract on reducing random blood glucose level among elderly with type 2 diabetes mellitus in selected village at panagudi.

Objectives

- To assess the pretest and posttest level of random blood glucose among elderly with type 2 diabetes mellitus in experimental and control group.
- To evaluate the effectiveness of fresh guava leaves extract on random blood glucose among elderly with type 2 diabetes mellitus in experimental and control group.
- To find out the association between pretest level of random blood glucose among elderly with type2 diabetes mellitus with their selected demographic variables in experimental and control group.

Hypothesis

- There is a significant difference between pre test and post test level of random blood glucose in experimental group.
- There is a significant association between pretest and post test level of random blood glucose among elderly with type2 diabetes mellitus with their selected demographic variables in experimental and control group.

RESEARCH METHODOLOGY

The Research Approach adopted for the study was quantitative research approach. The research design used for this study was quasi experimental non randomized control group design. The study was conducted in panagudi rural area. Thirty samples who satisfied the inclusive criteria were selected by using convenient sampling technique. Type 2 diabetes mellitus on reducing blood glucose level of elderly was assessed by random blood glucose chart. Informed consent was obtained from the participants and the demographic data was collected from elderly with type 2 diabetes mellitus. The pretest were done by using Glucometer. Fresh guava leaves extract from 10 guava leaves and 250 ml of water boiled 10-15 minutes. 50ml of fresh guava leaves extract was given in the morning half an hour after breakfast daily for 7 days in experimental group. Post test was done for both group after intervention using same tool.

RESULT AND DISCUSSION

Statistical test like frequency and percentage distribution based on demographic variables of the experimental group revealed that considering the age (40%) below to 66-70 years, Based on the sex 73% (11%) females, Based on religion (93%) of Hindu, occupational status (67%) of coolie, education majority of them(67%) of illiterate, Based on monthly income of the family (82%) 5000-10000-/, Based on duration of illness (60%) of < years.

The first objective of the study was assess the pre test and post test level of random blood glucose among elderly with type 2 diabetes mellitus in experimental and control group.

Table 1.1 predicts that in the pre test in the experimental group among 30 elderly 47% of them pre-diabetic, 53% of them had diabetic. In post test 47% of them normal, 27% of them had pre diabetic and 26% of them had diabetes.

Second objective of the study was to assess the effectiveness of fresh guava leaves extract on reducing random blood glucose among elderly with type 2 diabetes mellitus in experimental group.

Table 1: Frequency and percentage distribution level of random blood glucose level. N= 30

Random blood glucose	Experimental group				Control group			
	Pre test		Post test		Pretest		Post test	
	F	%	F	%	F	%	F	%
Normal	0	0%	7	%	0	0%	0	0%
Pre diabetes	7	47%	4	27%	5	33%	6	40%
Diabetes	8	53%	4	26%	10	67%	9	60%

Table 2: Comparison of mean, standard deviation, 't' test value mean difference among experimental and control group. N=30

Level of diabetes mellitus	Pre test		Post test		Mean difference	Paired't'test
	Mean	Standard deviation	Mean	Standard deviation		
Experimental group	23.45	82.8	18.56	69.89	48.9	6.050
Control group	26.01	75.05	26.76	73.73	7.5	4.81

Table 1.2 showed that the experimental vroup of pre test mean score of diabetes mellitus among elders was 23.45 with SD 82.8 and the post test score of diabetes mellitus was 18.56 with SD 69.89. The calculated paired 't' value of t=6.050 was found to be statistically significant at $p<0.05$ level.

Third objectives of the study was to find out the association between pre test level of random blood glucose among elderly with type 2 diabetes mellitus with their selected demographic variables in experimental and control group.

Regarding the demographic variables like

gender, religion, personal habits, source of information, education, occupational status, monthly income, drug intake, and are having any association with the level of blood glucose in diabetes mellitus among elders ($p>0.05$). Age and dietary pattern are associated with the level of random blood glucose in diabetes mellitus.

CONCLUSION

Guava leaves are cost effective, easily available knows by all people and improves the general well being of the people. Preventing them from developing complication and reduce the dosage of the drugs. It was concluded that fresh guava leaves extract on reducing random blood glucose among elderly with type 2 diabetes mellitus.

REFERENCES

1. www.ncbi.n/m .nih.gov
2. http://www.health.harvard.edu
3. https://www.frontiersin.org
4. Basavanthappa B.T (2008), Nursing research, New Delhi, Jaypee publications
5. Black, J. K Hawaks , J.H (2009) Medical and Surgical Nursing, 8th edition, Elsevier publications
6. Gupta (2000) S.P Statistical methods, 5th edition, new delhi, sulthan chandpublications.
7. Bunadette, P.H(2011). Nursing research principles and methods .2nd edition, Philadelphia Lippincott publications
8. Deguchi Y (2006) effect of guava leaves on random blood glucose and diabetes, assoc Jpn Soc Med use funt foods.