

Anti-Diabetic Activity of Methanolic Extract of Prunus Domestica

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Abstract: Diabetes could be a disorder, the difficulty begins once blood sugar levels become elevated. This can be attributable to an absence of ample internal secretion production, or the body failing to acknowledge and use the internal secretion properly. Terribly serious health complications may result from polygenic disease, particularly if left untreated.[1]

In the present experiment ,the anti-diabetic activity of the total methanolic extract of the fruits of Prunus Domestica was studied in alloxan induced diabetic rats. The methanolic fraction exhibited significant reduction in blood glucose levels. The present investigation established some pharmacological evidence to support the effect of flavounoids containing fraction that is used as an antidiabetic.[2]

Key Words: Anti-diabetic activity, Methanolic extract, Prunus Domestica, Alloxan, Blood glucose levels.

I. INTRODUCTION

The term "diabetes mellitus" describes a disorder of multiple aetiology characterised by chronic hyperglycemia with disturbances of supermolecule, fat and macromolecule metabolism ensuing from defects in hormone secretion, hormone action, or both the consequences of DM embody long-term harm, pathology and failure of varied organs (WHO 1999).

There square measure **2 main kinds** of polygenic disorder: Kind one diabetes (T1B) sometimes develops in childhood and adolescence and patients need womb-to-tomb hormone injections for survival.

Type two polygenic disorder (T2B) sometimes develops in adulthood and is expounded to blubber, lack of physical activity, and unhealthy diets. This can be the additional common kind of polygenic disorder (representing ninetieth of diabetic cases worldwide) and treatment could involve modus vivendi changes and weight loss alone, or oral medications or maybe hormone injections.

Other classes of polygenic disorder different classes of polygenic disorder embody physiological state polygenic disorder (a state of symptom that develops throughout pregnancy) and "other" rarer causes (genetic syndromes, nonheritable processes like rubor, diseases like pancreatic fibrosis, exposure to sure medicine, viruses, and unknown causes).

As well, intermediate states of symptom (impaired fast aldohexose or impaired aldohexose tolerance) are outlined.

These states square measure vital in this they will get to polygenic disorder, however with weight loss and modus vivendi changes, this progression may be prevented or delayed.

In the short term, symptom causes symptoms of enlarged thirst, enlarged excreting, enlarged hunger, and weight loss. However, within the long, it causes harm to eyes (leading to blindness), kidneys (leading to urinary organ failure), and nerves (leading to impotence and foot disorders/ probably amputation). As well, it will increase the chance of cardiovascular disease, stroke, and insufficiency in blood flow to legs. Studies have shown that smart metabolic management prevents or delays these complications.

Thus, the first goal of treatment is to bring the elevated blood sugars all the way down to a standard vary, each to enhance symptoms of polygenic disorder moreover on forestall or delay diabetic complications. Achieving this goal needs a comprehensive, coordinated, patient-centred approach on the a part of the health care system.

Types of polygenic disorder:

Kind one diabetes (T1D)

Description: Erst called Insulin-Dependent DM (IDDM) characterised by symptom owing to associate degree absolute deficiency of the hormone secretion created by the duct gland. Patients need womb-to-tomb hormone injections for survival.

Usually develops in kids and adolescents (although will occur later in life) could gift with severe symptoms like coma or acidosis. Patients square measure sometimes not corpulent with this sort of polygenic disorder, however blubber isn't incompatible with the identification. Patients square measure at enlarged risk of developing microvascular and macrovascular complications.

Etiology: Sometimes (but not always) caused by response destruction of the beta cells of the duct gland, with the presence of sure antibodies in blood. A fancy malady caused by mutations in additional than one cistron, moreover as by environmental factors.

Symptoms: urinary frequency , thirst, hunger , weight loss symptom in extremities, pain in feet, fatigue, continual or severe infections. Severe nausea/vomiting or coma, acidosis any common in T1D than in T2D.

Diagnosis: Identification is formed by the presence of classic symptoms of symptom associate degreed an abnormal biopsy. A plasma aldohexose concentration ≥ 7 mmol/L (or 126 mg/dL) or ≥ 11.1 mmol/L Or(two mg/dL) 2 hours when a 75g aldohexose drink. During a patient while not classic symptoms, identification also can be created by 2 abnormal blood tests on separate days. In most settings (although not invariably obtainable in resource-poor countries), another take a look at known as HbA1C is completed to approximate metabolic management over previous 2-3 months and to guide treatment choices.

Treatment: Consistent provide of hormone essential (however, hormone is inaccessible and unaffordable in several poor countries). Glucometers to self-monitor hexose. Early detection and treatment of complications (at intervals urged by national and international guidelines): Eye take a glance at, urine test, foot care, and specialist referral as required. Patient education regarding self-monitoring for sign/symptoms of symptom (such as hunger, palpitations, shakiness, sweating, temporary state and dizziness) and symptom. Patient education regarding diet, exercise, and foot care wherever doable, patient-led support teams and community involvement.

Type two polygenic disorder (T2D)

Description: Erst named NIDDM mellitus (NIDDM) characterised by symptom owing to a defect in hormone secretion sometimes with a contribution from hormone resistance. Patients sometimes don't need womb-to-tomb hormone however will management glucose with diet and exercise alone, or together with oral medications, or with the addition of hormone. Sometimes (but not always) develops in adulthood (and is on the increase in kids and adolescents)

is expounded to blubber, decreased physical activity and unhealthy diets. As in T1D, patients square measure at the next risk of microvascular and macrovascular complications.

Etiology: Related to fat, ablated physical activity and unhealthy diets (and involves hypoglycaemic agent resistance in nearly all cases) happens additional oftentimes in people with cardiovascular disease, dyslipidemia (abnormal steroid alcohol profile), and central fat, and could be a element of "metabolic syndrome". Usually runs in families however could be a complicated malady caused by mutations in additional than one sequence, yet as by environmental factors.[3]

Symptoms: Patients could haven't any symptoms the least bit or least symptoms for years before being diagnosed could have multiplied urinary frequency (polyuria), thirst (polydipsia), hunger (polyphagia), and unexplained weight loss may expertise symptom in extremities, pain in feet (disesthesias), and blurred vision could have perennial or severe infections. Patients could gift with loss of consciousness or coma however this is often less common than in T1D.

Diagnosis: Diagnosing is formed by the presence of classic symptoms of symptom associate degreed an abnormal biopsy. A plasma aldohexose concentration ≥ 7 mmol/L (or 126 mg/dL) or ≥ 11.1 mmol/L Or(two00mg/dL) 2 hours once a 75g aldohexose drink in a very patient while not classic symptoms, diagnosing may also be created by 2 abnormal blood tests on separate days. In most settings (although it's going to not be on the market in some resource-poor settings), another check known as HbA1C is finished to approximate metabolic management over previous 2-3 months and to guide treatment selections. This take a look at might even be accustomed diagnose sort a pair of hereditary disease.[4]

Treatment: Glucometers to self-monitor glucose (with less frequency than with T1D). Early detection and treatment of complications (at intervals counseled by national and international guidelines): Eye take a glance at, urine test, foot care, and specialist referral professional re nata. Self-monitoring for signs/symptoms of symptom (such as hunger, palpitations, shakiness, sweating, state and dizziness) and symptom. Patient education concerning diet, exercise, and foot care.

Gestational hereditary disease (GDM):

Description: Characterised by symptom of variable severity diagnosed throughout state (without antecedently noted diabetes) and customarily (but not always) partitioning among six weeks of delivery. Risks to the state itself

embody inborn malformations, exaggerated birth weight associated associate degree elevated risk of perinatal mortality exaggerated risk to lady of developing hereditary disease (T2D) later in life.

Etiology: The mechanism isn't fully well understood however hormones of physiological state seem to interfere with hypoglycemic agent action.

Symptoms: Magnified thirst (polydipsia) and magnified micturition (polyuria) area unit additional normally noted (although different symptoms is present) as a result of physiological state itself causes magnified micturition, these symptoms area unit troublesome to acknowledge as abnormal a bigger than traditional baby throughout physiological state (noted on routine antenatal exam) might prompt diabetic screening.

Diagnosis: Commonplace OGTT is completed at two4-28 weeks once associate long quick (fasting plasma aldohexose and a plasma aldohexose 2 hours once 75g aldohexose drink is done). A two hour level ≥ 7.8 mmol/L (or a hundred and forty mg/dL) is diagnostic of physiological state polygenic disorder. If abstinence and postprandial blood sugars area unit elevated within the trimester, this could indicate preceding DM (which is taken into account a unique condition, with completely different implications).

Treatment: Strict metabolic management of glucose to lower medicine risks. Glucometers to self-monitor glucose. Patient education concerning diet and exercise. Patient education once delivery concerning weight loss/exercise to forestall future polygenic disorder. Long screening for T2D as patient are going to be in high risk class.

Intermediate states of symptom Description: IFG, IGT, and DM area unit seen as progressive stages of a similar unwellness method, and treatment at earlier stages has been shown to stop progression to later stages (by diet, exercise and way management). Not all patients with IGT have IFG, thus it's thought-about a separate class. As well, the implications of the 2 states area unit slightly totally different.

Impaired abstinence symptom (IFG) may be a state of upper than traditional abstinence blood (or plasma) aldohexose concentration, however under the diagnostic cut-off for polygenic disease. Impaired aldohexose Tolerance (IGT) may be a state of upper than traditional blood (or plasma) aldohexose concentration two hours when seventy five gram oral aldohexose load however but the diagnostic cut-off for polygenic disease.

Symptoms: Patients typically don't have any symptoms and area unit diagnosed as a result of a check is finished upon

patient request or as a result of he/she falls into a high risk class.

Diagnosis: IFG: abstinence plasma aldohexose ≥ 6.1 mmol/L (110 mg/dL) and < 7 mmol/L (126 mg/dL) per UN agency one999 criteria. (ADA has chosen a lower cutoff of five.6mmol/L or 100mg/dL). IGT: abstinence plasma aldohexose (if available) < 7.0 mmol/L (126 mg/dL) and a pair of hour post seven5g aldohexose drink of ≥ 7.8 mmol/L (140 mg/dL) and < 11.1 mmol/L (200 mg/dL).

Treatment: Way modifications (diet, physical activity, weight loss) area unit the mainstay of treatment, though typically medications area unit used.

Large, population-based studies in China, European nation and USA have recently incontestable the practicability of preventing, or delaying, the onset of polygenic disease in overweight subjects with gentle aldohexose intolerance (IGT). Studies recommend that even moderate reduction in weight AND solely an hour of walking on a daily basis reduces the incidence of polygenic disease by quite one.

Complications of diabetes: Polygenic disease complications area unit divided into microvascular (due to break to tiny blood vessels) and macrovascular (due to break to larger blood vessels). Microvascular complications embrace injury to eyes (retinopathy) resulting in vision defect, to kidneys (nephropathy) resulting in renal disorder and to nerves (neuropathy) resulting in impotence and diabetic foot disorders (which embrace severe infections resulting in amputation).

Macrovascular complications embrace vessel diseases like heart attacks, strokes and insufficiency in blood flow to legs. There's proof from massive randomized-controlled trials that sensible metabolic management in each kind one and a couple of polygenic disease will delay the onset and progression of those complications.

Diabetic retinopathy (eye disease) Etiology: Diabetic retinopathy may be a leading reason behind vision defect and visual incapacity. It's caused by tiny vessel injury to the rear layer of the attention, the retina, resulting in progressive loss of vision, even vision defect.

Symptoms: typically the patient complains of blurred vision, though different visual symptoms may additionally be gift.

Diagnosis: identification of early changes within the blood vessels of the tissue layer are often created through regular eye examinations.

Treatment: Smart metabolic management will delay the onset and progression of diabetic retinopathy. As well, early detection and treatment of vision-threatening retinopathy will forestall or delay cecity. This involves regular eye examinations and timely intervention.

Nephropathy (kidney illness) Etiology: Diabetic uropathy is additionally caused by injury to tiny blood vessels within the excretory organs. This may cause failure, and eventually cause death. In developed countries, this can be a number one explanation for qualitative analysis and excretory organ.

Symptoms: Patients sometimes haven't any symptoms timely, however because the illness progresses, they'll feel tired, become anemic, not suppose clearly, and even develop dangerous solution imbalances.

Diagnosis: Early identification is created by a straightforward piddle check for macromolecule in addition as a biopsy for excretory organ operate.

Treatment: If diagnosed at associate early stage, many measures will retard the progression to failure. These embrace management of high glucose, management of high vital sign, intervention with medication within the early stage of excretory organ injury, and restriction of dietary macromolecule.

Neuropathy (nerve disease) Etiology: Polygenic disease causes nerve injury through completely different mechanisms, together with direct injury by the symptom and shrivelled blood flow to nerves by damaging little blood vessels. This nerve injury will cause sensory loss, injury to limbs, and impotence in diabetic men. It's the foremost common complication of polygenic disease.

Symptoms: The symptoms ar several, looking on that nerves ar affected: As an example, symptom in extremities, pain in extremities, and impotence shrivelled sensation to feet will cause patients not recognizing cuts and developing foot infections. If not treated early, these will cause amputation (more regarding diabetic foot unwellness below).

Diagnosis: Early designation is formed by early recognition of symptoms by patients and health care suppliers further as by careful examination by health care suppliers at regular intervals.

Treatment: If detected early, and glucose brought in restraint, these complications may be prevented or delayed. Diabetic foot unwellness, because of changes in blood vessels and nerves, usually ends up in ulceration and later limb amputation. It's one among the foremost pricey complications of polygenic disease, particularly in

communities with inadequate footwear. It results from each tube-shaped structure and upset processes. Regular examination and excellent care of the foot will forestall amputations. Comprehensive foot programs will cut back amputation rates by 45-85%.

II. MATERIALS AND METHODS

AIM AND OBJECTIVES

AIM:

To study the “Anti-Diabetic” activity of Methanolic extract of fruits of

Prunus domestica.

OBJECTIVES:

- 1) To prepare methanolic extract of fruits of Prunus domestica.
- 2) To perform phytochemical screening studies.
- 3) To carry out and identify Anti-Diabetic activity of methanolic extract of Fruits of Prunus domestica.

PLAN OF WORK

I.PHYTOCHEMICAL STUDIES:

1. Extraction of fruits by soxhletion method.
2. Preliminary phytochemical screening.

II. PHARMACOLOGICAL STUDIES:

1. Anti-Diabetic activity (Alloxan induced method).

PLANT PROFILE:

BOTANICAL DATA

Botanical Name:- Common plum L.

Synonym:- P. domestica volt-ampere. damascena botanist

Family:- Rose family

Vernacular Names

Telugu:- Albukara

Prunus domestica L. could be a prickly bush being regionally named as “Plum Fruit” in

English[5]

IDENTIFICATION

Kingdom:- Plantae

Subkingdom:- Tracheobionta – tube plants

Superdivision:- Spermatophyta – Seed plants

Division:- Angiospermae – Flowering plants

Class:- Dicotyledones

Subclass:- Rosidae

Order:- Rosales

Family:- Rosaceae

Genus:- Rosid dicot genus L. – plum

Species:- Common plum L. – European plum

Variety:- Common plum L.

PLANT DESCRIPTION: Trees 6–15 m tall. Branches brown, unarmed or with some spines, glabrous; branchlets pale red to achromatic inexperienced, sparsely pubescent. Winter buds brown, sometimes hairless. Stipules linear, margin organ, apex acuminate stalk 1–2 cm, densely pubescent; blade dark inexperienced, elliptic to simple, 4–10 × 2.5–5 cm, abaxially pubescent, adaxially hairless or sparsely pubescent on veins, base simple to often broadly speaking simple and with a try of nectaries, margin remote crenated, apex acute to obtuse; secondary veins 5–7 on either facet of vein. Flowers solitary or to three during a fascicle, on apex of short branchlets, 1–1.5 cm in diameter, pedicle 1–1.2 cm, hairless or pubescent, floral cup outside pubescent. Sepals ovate, outside pubescent, margin entire, apex acute. Petals white or often chromatic, obovate, base simple, apex rounded to obtuse. Drupe red, purple, green, or yellow, sometimes ball-shaped to rectangular, seldom subglobose, 1–2.5 cm in diameter., typically glaucous; pericarp broadly speaking ellipsoid, pitted. Fl. Mar, fr. Sep.[6]

Habitat: Widely cultivated in China [native to SW Asia and Europe].[7]

Medicinal notes: In Unani drugs, prunes square measure thought to be nutrient, refrigerant, demulcent, cooling, digestive, laxative and tonic. Prunes are used for hundreds of years in sweet dishes, sauces, rice-meat dish (Biryani). It's used for treatment of acid symptom, nausea, vomiting, to reduce thirst, in bilious fevers and headache. Being somewhat adhesive, it cools abdomen. Prunes square measure employed in general frailness (Usmanghani et al.,

1997).Prunes square measure soaked during a glass of water nightlong and therefore the ensuing juice is given to patients in morning for the treatment of cardiovascular disease (Usmanghani et al., 1986), jaundice and infectious disease (Abbasi et al., 2009). P. domestica is employed for lowering glucose.[8]

Antioxidant activity: Total phenolic resin contents and total inhibitor capability of prunes were found more than alternative dry fruits as well as dates, figs and raisins (Wu et al., 2004).[9]

Anticancer activity: Alcohol fraction of prune juice has been shown to suppress proliferation and induce apoptotic changes in human colon malignant neoplastic disease cells (Fujii et al., 2006).[10]

Antihyperlipidemic activity: Daily uptake of prunes has shown to decrease plasma and cholesterol in delicate hypercholesterolemic persons (Tinker et al., 1991).[11]

Blood pressure lowering activity : Caffeic acid belittled reactive atomic number 8 species in angiotensin-II treated vascular sleek muscle cells obtained from stroke prone impromptu hypertensive rats (SHRSP) and chronic administration of prunes extract hampered elevation of vital sign in SHRSP (Neigeshe et al., 2007).[12]

Anxiolytic activity: In mouse models of hysteria, chlorogenic acid, in an exceedingly dose of twenty mg/Kg has anxiolytic result, which can be mediate through activation of sedative drug receptors (Bouayed et al., 2007).[13]

Good for bones: Prunes ar terribly effective in preventing or reversing bone loss (Hooshmand and Arjmandi, 2009). Prunes ar made supply of Se and element each of those trace parts modulate bone metabolism and preserve bone mineral density.[14]

Useful in constipation and liver disorders: The prunes were reportable to contain oxyphenisatin, that has been shown to act as contact laxative (Ritchie, 1972). High sorbitol contents and cholorgenic acids additionally contribute to laxative result of prunes (Stacewicz et al., 2001).

So,as the fruits of Prunus Domestica are rich in flavonoidal Content,it is expected to be one of the agent responsible for decreasing the blood glucose level,so it was thought to carry out Anti-Diabetic activity on the fruits of Prunus Domestica For scientific validation.[15]

EXPERIMENTAL WORK ASSORTMENT AND AUTHENTICATION OF PLANT SPECIMEN:

Giant numbers of fruits of plum were collected from the Mangalagiri fruit market, Guntur, Andhra Pradesh, India. Before their use, they were fastidiously known by and genuine by professor. Dr. P. Satyanarayana Raju, Dept. of biology & biology, Acharya Nagarjuna University, Guntur.

Preparation of extract:

Giant numbers of fruits of plum were collected. The fruits were washed totally with H₂O then dried over a synthetic resin cowl in shade drying technique with a facilitate of fan at 21°C temperature and also the flush a part of the fruit was seperated. The coarse material (1000gm) was extracted severally with wood spirit by soxhletion technique throughout that the temperature was maintained between 35° - 37°C. The liquid extracts that were yielded were targeted to induce semi-solid residue that was our final.

Preliminary Phytochemical Screening: The extract was subjected to the subsequent preliminary phytochemical screening:

Phytochemical screening of Prunus Domestica Fruits

Chemical constituent	Name of the test	Observation
1. Carbohydrates	Molischs test	+ve
2. Glycosides	Borntrager’s test	+ve
3. Fixed oils & fats	Saponification test	-ve
4. Proteins and free amino acids	Millons and Biuret test	+ve
5. Saponins	Foam test	-ve
6. Phenolic compounds	Dilute ferric chloride solution	+ve
7. Phytoserol	Libermann-burchard’s test	-ve
8. Alkaloids	Dragand roff’s test	+ve
9. Flavanoids	Shinoda	+ve

Note: “+”-Presence of secondary metabolites

Anti-Diabetic Activity:

SELECTION OF ANIMALS (for opposed diabetic activity): Healthy adult rats of author strain of either sex, deliberation 180-220gms were selected for the study. The experimental protocol was subjected to the scrutiny of the Institutional Animals ethics panel, and was cleared by same before starting the experiment.

MAINTENANCE OF ANIMALS (for opposed diabetic activity): The animal house was well ventilated; animals and also the temperature was unbroken between 19-20°C. The animals were housed in giant spacious healthful cages throughout the course of the experimental amount. The animals were fed with rat pellets feed and pure filter water. because the wounded animals were prone to infection healthful conditions were maintained.[16]

ACUTE ORAL TOXICITY STUDIES: common plum at the dose vary of 100 mg–2000 mg/kg were administered orally to completely different cluster of rats comprised of 10 rats in every cluster. Mortality was ascertained once seventy two hours. Acute toxicity was resolute in keeping with the strategy of Litchfield and Wilcoxon.[17]

Induction of polygenic disorder in rats: Rats were created diabetic by one intraperitoneal injection of alloxan hydrate (150 mg/kg) [18]. Alloxan was 1st weighed separately for every animal in keeping with the weight so solubilized with 2 ml saline (154 mM NaCl) simply before injection. 2 days once alloxan injection, rats with plasma aldohexose levels of 140 mg/dl were enclosed within the study. Treatment with fruit extract was started forty eight h once alloxan injection.

Experimental style 5 teams of rats, six in every received the subsequent treatment schedule. Group I: traditional management (saline). Group II: Alloxan treated management (150 mg/kg.ip). Group III: Alloxan (150 mg/kg.ip) + normal drug Metformin 250mg/kg. Group IV: Alloxan (150 mg/kg.ip) + fruit extract (200mg/kg bodyweight), Group V: Alloxan (150 mg/kg.ip) + fruit extract (400mg/kg bodyweight)

Whole plant extracts and normal drug antidiabetic and saline were administered with the assistance of feeding tube. cluster I function traditional management, that received saline for fourteen days. cluster II to cluster V area unit diabetic management rats. cluster IV -Group V (which antecedently received alloxan) area unit given a hard and fast dose fruit extract (200 mg/kg, p.o), (400 mg/kg, p.o) and normal drug antidiabetic for fourteen consecutive days.

COLLECTION OF BLOOD SAMPLE AND GLUCOSE ESTIMATION:

Blood samples were drawn from tail tip of rat at weekly intervals until the tip of study (i.e., 2 weeks). Fast glucose estimation and weight measuring were done on day one, 7, and fourteen of the study. Glucose estimation are often done by victimization bioanalyser On day fourteen, blood was collected from retro-orbital rete below gentle ether physiological condition from long fasted rats and fast glucose was calculable.[19]

III. RESULTS

The diabetic animals showed significant decrease in bloodglucose level after 14 days treatment. Alloxan treated ratsshown substantial weight loss & affect carbohydrate & lipid metabolism. Diabetic rats treated with methonalic extract also found effective in normalizing bloodlipids like cholesterol & triglycerides (Table-II). Thephytochemical screening of the extracts revealed the presence oftannins, flavonoids, glycosides, phenolic compounds, carbohydrates,proteins and free amino acids.

Table 1: Effect of Methanolic extract of Prunus Domestica on blood glucose levels & body weights of the rats.

Groups	Blood Glucose levels (mg/dl)		Body weights (gms)	
	Before the treatment	After the treatment	Before the treatment	After the treatment
Normal	109.54±3.2	110.89±5.5	163.66 + 8.83	176.33 + 3.84
Diabntetic control	450.36±5.01	456.09±3.3	283.33 + 2.90	264.33 + 8.64
Extract 1 (200mg/kg)	435.21±10.23	398.96±2.2	210.33 + 12.99	198.00 + 20.13
Extract 2 (400mg/kg)	432.05±10.056	388.75±9.5	254.66 + 5.69	248.67 + 4.17
Standard.	440.95±10.568	301.52±5.5	216.33 + 10.86	208.67 + 9.20

Values are expressed as MEAN + SEM.

Table 2: Effect of Methanolic extract of Prunus Domestica on biochemical parameters.

Groups	Biochemical Parameters	
	Total cholesterol (mg/dl)	Total triglycerides (mg/dl)
Normal	35.70 + 3.02	72.99 + 18.12
Diabntetic control	51.85 + 1.71	149.7 + 11.25
Extract 1 (200mg/kg)	41.15 + 8.27	82.15 + 12.72
Extract 2 (400mg/kg)	35.99 + 6.62	84.62 + 22.89
Standard.	46.75 + 8.89	82.79 + 22.49

Values are expressed as MEAN + SEM.

IV. DISCUSSION

In our day to day life we tend to area unit at risk of most of stress and neutering dietary conditions that causes lack of endocrine ultimately results in the hyper glycemc condition called polygenic disorder. To decrease the upper blood aldohexose level,currently we tend to victimization antidiabetic drug medicine,we have taken a shot to look for higher drug from plant. Some plants with leveled medicative prices area unit still very little famed or unknown which require a really general scientific study to explore its precise therapeutic value. Therefore ,there is a necessity for prototypes, new templets, to use within the style of potential hyper glycemc agent. Natural merchandise area unit providing such templets.Ancient indian system of drugs has several plants with versatile medicative properties that need detail investigation for effective drug development. The natural merchandise area unit economical and of low toxicity and this can be maybe the advantage over artificial agents, that exhibit traditional tissue toxicity. With the will to seek out new Anti-Diabetic agent and to open new areas of productivity analysis , we tend to selected Prunus domestica fruit (Family Rosaceae), a plant with established medicative properties for testing its potential Anti-Diabetic activity.

V. CONCLUSION

Diabetes may be a chronic sickness causes complications like diabetic retinopathy, nephropathy, neuropathy etc., within the gift study, excision diabetic model used for sleuthing the anti-diabetic activity of the common plum extract. Varied studies are done relating to the medical specialty properties of methanolic extract of common plum fruits. Within the gift study methanolic extract is ready from the fruits of common plum and its anti-diabetic properties were studied in vivo models in Swiss anomaly rats of Wister strain.

How ever, anti-diabetic impact of this fruit extract has not been tested by normal ways. Our results undoubtedly indicate that extract of common plum fruit is in a position to scale back the glucose levels. This conclusion comes from the decrease within the glucose levels with common plum fruit extract compared to regulate or untreated polygenic disease.

The methanolic extract of fruits of common plum showed vital medication activity that is clear by the info obtained. The extract of common plum shows the biphasic reduction of aldohexose levels as that of ordinary drug. Hence the methanolic extract of common plum is safer to use than artificial medicine as they need a lot of facet effects.

The extract having an amazing potential deserves a special attention of the scientific fraternity to emerge as a milestone for bioscience of this millennium attributable to its safety profile and may be a potent natural and safe various to standard medication treatment. However ever there's a shortage of test relating to its efficiency and effectuality.

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