INTRODUCTION

Hypertension is a common cardiovascular disease and now a day it is a major public health issue. Cardiovascular diseases account for 12 million deaths annually Worldwide.

Hypertension scientifically indicates the increase of blood pressure. Sum of cardiac output and peripheral vascular resistance signifies the blood pressure of an individual. Since, increase in either cardiac output or peripheral resistance will increase the blood pressure, this health issue is known as hypertension. Hypertension accounts for several cardiovascular pathologies such as arteriosclerosis, coronary artery disease, and myocardium infarct, renal insufficiency, stroke and dissecting aneurysm of aorta [1]. Various drugs has been introduced to control the hypertension health problems, but some of them causes side effects such as kidney failure, skin diseases, diarrhea, fever, vomiting, headache etc. So, now herbal medicines are considered as alternative of synthetic drugs.

Anxiety is a psychological disorder characterized by a persistent and disproportionate fear unrelated to genuine risk. There are several types of anxiety disorders including generalized anxiety disorder, panic disorder, social anxiety disorder and specific phobias. Though, therapeutic drugs such as monoamines, neurosteroids, benzodiazepines and serotonin are used in the treatment of anxiety disorders but due to the side effects of them, now herbal medicines are thought to be safe for treatment of anxiety disorders.

This review is about the contribution of some species of Passiflora (medicinal plant) in treatment of hypertension as well as anxiety disorders. Passiflora sp., belongs to the family of Passifloraceae, is also known as Passionflower or passion vines. Passiflora is a genus of about 500 species of flowering plants. They mostly vines, with some being shrubs and a few species being herbaceous. Mostly they are native to South America, Eastern Asia (including India), South Asia and New Guinea. Some are native to United States, California, Florida and Australia and also to New Zealand [2].
Performing anxiolytic effect by binding to the central benzodiazepine receptors displacing [3H] flunitrazepam when examined in mice [19]. It has been evaluated that the methanolic extract of whole plant of *Passiflora edulis* has evaluated on renal hypertensive rats and they have reported that the highest dose of fruit pulp significantly reduced the systolic blood pressure [6]. The reduced systolic and diastolic blood pressure was observed in the hypertensive Wistar rats (hypertension induced by administering 8% salt NaCl solution for 2 weeks) after administering the ethyl acetate extract of aerial part of the *Passiflora edulis* plant [7]. Patel et al., have reported that the methanolic extract of whole plant of *Passiflora nepalensis* possess antihypertensive activity and the reduction in mean arterial pressure, pulse and blood pressure in renal hypertensive rats after administration of 75, 150 and 225 mg/kg of that extract indicates antihypertensive effect of *Passiflora nepalensis* [8]. Antihypertensive effect of aqueous extract of whole plant of *Passiflora nepalensis* has been evaluated on renal hypertensive rats [9]. *Passiflora incarnata* possesses the antihypertensive activity due to the presence of water-soluble substance isolated as mercury salt (C10H22O8NHgCl) [10]. *Passiflora caerulea* flower extract contains chrysin (C15H10O4), a naturally occurring flavone (flavonoid). Antihypertensive activity of chrysin was observed on hepatic and renal activity of *N*ω-nitro-L-arginine-methylester induced hypertensive rats [11].

**Antianxiety or anxiolytic activity**

Antianxiety activity of *Passiflora edulis* plant is reported in the elevated plus maze, open-field and horizontal–wire tests performed on mice [12]. Anxiolytic activity of aqueous extract of *Passiflora edulis* and *Passiflora alata* leaves have evaluated using the elevated plus-maze test (used as anxiety animal model) and leaf extract of the both the plants at doses of 50, 100 and 150 mg/kg have showed anxiolytic activity in the elevated plus-maze model [13]. Spray-dried powders of *Passiflora edulis* and *Passiflora alata* leaves have potential anxiolytic activity on the male adult Swiss rats administered with 200, 400 and 800 mg/kg of that spray-dried powder (evaluated by elevated plus-maze test) [14]. It is reported that butanol and ethanol extract of the aerial parts of *P. edulis* have anxiolytic effect at low doses [15]. It was evaluated that the methanolic extracts and fractions of *Passiflora actinia* leaves showed significant increase in the percentage of entries and time into the open arms of the maze (evaluated maze test for anxiolytic activity and suggested the potential anxiolytic property of *Passiflora actinia* [16]. A significant anxiolytic activity at a dose of 10 mg/kg of methanolic extract of *P. incarnata* flower have evaluated in mice using the elevated plus-maze test (model of anxiety test) [17]. Grundmann et al., demonstrated the GABA-mediated anxiolytic activity of HPLC characterized flower extracts of *P. incarnata* using elevated plus maze test [18]. Chrysins, a naturally occurring flavone of *Passiflora caerulea* flowers showed anxiolytic effect by binding to the central benzodiazepine receptors displacing [3H] flunitrazepam when examined in mice [19]. It was observed that hydroalcohol extract of *Passiflora quadrangularis* leaves exhibited a significant increase in time spent in the open arms at a dose of 500 mg/kg and it was evaluated in two animal models (adult male Wistar rats and Swiss mice) using elevated plus maze test for anxiety. This suggested the anxiolytic effect of *Passiflora quadrangularis* [20] which needs to be further explored.

**REFERENCES**