Introduction

Preservation of health and prevention from diseases has been instinctive necessity of humankind from the very beginning of creation. The nature has provided the storehouse of remedies to cure almost all ailments of mankind (Jain et al. 2010). Civilizations throughout the world have been using plants as medicine from thousands of years and continue to do so even today. The Indian subcontinent is enriched by a variety of flora – both aromatic and medicinal. This is result of wide diversity of climatic conditions in India. A large number of useful plants have been well recognised and catalogued by botanist from the high ranges of Himalayan right up to the seashore of Kanyakumari. This is the reason that the practices of traditional herbal remedies have been a hallmark of the indigenous system of medicines in India and more especially the tribal medicine of our country (Agrawal S.S. et al 2007).

Around 30 million species of plants are estimated to be present out of which 2,50,000 species belongs to higher plants. WHO has identified 3000 plants from the forests of India and other tropical countries which can be used as medicines (Mukharjee K. Pullok et al. 2002). Precisely due to this the herbal medicines have contributed to modern medicines in almost all the parts of the world.

Medicinal plants still play an important role in emerging and developing countries of Asia, both in preventive and curative treatments as these afford safe, cost effective and efficacious solution to primary health care problems (Kallia AN 2009; Handa SS 2003).

For thousands of years these natural products have been utilised for human health care. However, during the last century, the use of synthetic drugs led to decline in the use of plant derived compounds. At one time it was believed, by many, that the synthetic drugs would perhaps completely replaced the use of traditional plant derived medicine. However in recent years a resurgence of use of herbal drugs has once again been witnessed, firstly because the synthetic drugs have been found to be hazardous in many cases and secondly because there is growing awareness that the plant derived medicines have comparatively very less serious side
effects (Joshi et al. 2004). The herbal drugs have been found to be so safe that many are being evaluated, as adjuvant, to counteract the side effects of many modern therapies.

Keeping in view the therapeutic utility of herbal remedies the present study has been designed to evaluate phytochemically and pharmacologically the successive extracts of some *Cassia species* for their wound healing potential.

**WOUND:**

Wound is a disruption of tissue integrity that results in loss or breaking of the cellular and anatomical or functional continuity of living tissue. Wounds are inescapable events of life. It may arise due to physical (burn, electricity), chemical (acids, alkali), mechanical (trauma) or biological (microorganisms) factors (Kumar et al.). Alternately wound can be described as a breach in the normal tissue continuum, which leads to mechanical separation of functional structures such as blood vessels, inflammation and at a later stage, infection. Wounds are of many types like closed wounds, open wounds, complex wounds, injury to special tissues like fat, muscle, bone, nerve, artery, vein etc. and chronic wounds like ulcers due to diabetes (Khan et al. 2003).

**WOUND HEALING:**

Wound healing is a complex multi-factorial process that results in the contraction and closure of the wound and restoration of a functional barrier. Proper healing of wound is essential for the restoration of disrupted functional status of skin. It is the result of integrated response of several cell types to injury (Singh et al. 2006). The process of healing involves two distinct processes (Cotran and Kumar, 1991, Harsh Mohan, 2000, Seth, 1999, Clark, 1989).

i) **Regeneration:** When healing takes place by proliferation of parenchymal cells and usually results in complete restoration of the original tissue.

ii) **Repair:** When the healing takes place by proliferation of connective tissue elements resulting in fibrosis and scarring.

Wound healing is a complex process that can be roughly divided into 3 overlapping phases i.e. inflammatory reaction, proliferation, and remodelling. The inflammatory phase involves vascular responses characterized by blood coagulation and haemostasis as well as cellular events, including infiltration of leukocytes with varied functions as antimicrobial and
cytokine release, which initiates the proliferative response for wound repair. Some authors have divided wound healing into 4 stages, with the first stage being haemostasis, highlighting the importance of vascular responses.

During the proliferative phase, there is formation of the epithelium to cover the wound surface with concomitant granulation of tissue to fill the wound space. Granulation of tissue involves proliferation of fibroblasts, deposition of collagens and other extra cellular matrices, and development of new blood vessels. Once the new tissue within the wound is formed, the remodelling phase begins to restore tissue structural integrity and functional competence. The 3 phases of wound repair are however not simple linear events but rather overlapping in time.