

memory. By modulating the monoamines norepinephrine, dopamine and serotonin, *C. paniculatus* oil improves the learning and memory processes (Nalini et al. 1995). In addition, *C. paniculatus* seed oil elevates the cholinergic activity in rat brains by decreasing AChE activity and thereby improving memory performance (Da Rocha et al. 2011). Cognition-enhancement properties were revealed from the recuperation of spatial memory impairment through the release of muscarinic receptor blockages (George et al. 2010). The methanolic extracts from the inflorescences of *C. paniculatus* exhibited anti-inflammatory properties and can be utilized in AD treatment (Ahmad et al. 1994). *C. paniculatus* has been shown to possess antioxidant potential, cognition enhancement, concentration improvement and the ability sharpen memory (Bhanumathy et al. 2010).

9.3.3 *CENTELLA ASIATICA*

C. asiatica has the potential to prevent cognitive deficits and used in the treatment of AD (Kumar and Gupta 2003). The extract from *C. asiatica* was proven to change A β pathology in the brains of mice (Dhanasekaran et al. 2009). The extract alleviates the oxidative stress response generated during neurodegeneration in AD (Subathra et al. 2005). This herb has the potential to increase memory, intelligence and longevity (Cervenka and Jahodar 2006). In the brain of PSAPP (APP/Sw x PS1M 146L) mice, the extracts of *C. asiatica* recuperated the A β pathology, and hence could play a potential role in the treatment and prevention of AD (Xu et al. 2008; Da Rocha et al. 2011). *C. asiatica* improved memory and learning by modulating adrenergic, dopaminergic and serotonergic systems *in vivo* (Nalini et al. 1992).

9.3.4 *CURCUMA LONGA*

Curcumin obtained from *C. longa* is an excellent anti-inflammatory agent, and chronic inflammation is one of the factors in the pathogenesis in AD. Thus, curcumin serves as an agent in the treatment of AD. A β levels were decreased in mice with AD when treated with curcumin. Curcumin has antioxidant and non-steroidal anti-inflammatory properties and oxidative stress and inflammation are primary pathogenesis factors in AD, hence curcumin eases AD symptoms. Aging increases the pathogenesis of AD, as there is loss of superoxide dismutase and sodium-potassium ATPase activities. Curcumin revealed to increase these levels, even with aging (Bala et al. 2006). Curcumin reduced the senile plaques and effectively cleared the A β by increasing the phagocytosis of A β (Yang et al. 2005). Besides reducing plaque deposition, curcumin reversed the amyloid pathology in mice with AD (Yang et al. 2005). The rhizome aqueous extract was shown to possess antidepressant activity, which is essential for the management of AD (Yu et al. 2002). All these properties of curcumin have been considered for AD clinical trials (Kelley and Knopman 2008).

9.3.5 *EUPHORBIA ROYLEANA* BOISS

Shilajit is a substance found in the latex of *E. royleana* Boiss, which has immunomodulatory activities (Pandey and Tewari 1975). Shilajit interacts with the cholinergic