Anthropometry is an important tool of physical anthropology for obtaining different measurements like stature on the living as well as dead (skeleton and skeletal remains) of man using scientific method. Physical anthropologists mainly deal with study of human origin and evolution of human beings. They also deal with study of different races in various parts of the world.

Estimation of stature has a very significant role to play in forensic anthropometry for personal identification. Even anatomists and anthropologists apart from forensic experts have shown keen interest in estimating the height of an individual/stature by measuring different body parts like foot length, hand length. Previous researchers have established a very well defined relationship between height of individual and different body parts such as head, trunk and lengths of upper and lower limb.

Important differences/variations between various ethnic groups have been studied in detail by comparing kinship between segments of body and which has been shown to be related to life style and locomotion. Body segments prediction is of utility in many fields of modern science. The kinship among body segments and height is used in assessing growth in normal individuals as well as in people suffering from specific syndromes. The relationships between proportions of various body segments especially of long bones of limb (femur) with height have been most widely studied.

In the events of accidents, murders or natural disasters, stature estimation of a person from the remains of skeleton or mutilated or amputated limbs has a very important role in personal identification. In the absence of complete evidence the kinship between specific dimensions of body and proportions are used to solve crimes.

It has been showed that stature can be estimated from a shoe left at the scene of a criminal offense. Likewise, victim’s stature can be estimated when a body part, such as hand or a long bone, is all that corpse (Santosh K et al., 2014). Forensic anthropology is a division of physical anthropology which interacts with other disciplines pertaining to the understanding of crime and its investigations. The biological profile of an individual
is an inherent traits such as sex, age, ethnicity and stature can be determined with the help of anthropometry (Numan AI et al., 2013).

Adult height may be attained anywhere from early teens to early twenties, though it is most commonly reached during mid-teens for females and late-teens for males.

It is common to find the peripheral parts of the body such as hand and foot in explosions, aircraft and railway accidents. Stature estimation from length of hand and phalangeal length can be used as an alternative measure to stature when stature cannot be measure directly due to deformities like kyphosis, lordosis, scoliosis, contracture or missing legs (Aggarwal J et al., 2013).

Bioarchaeological research reveals the importance of accurate stature estimation. It provides relevant information on life conditions of past populations. Stature is a good indicator of health, sexual dimorphism and evolutionary trends in overall body size and proportions. In addition, accurate stature estimation is necessary for reconstructing living body mass, skeletal rigidity and activity levels (Parash TH et al., 2011).

Stature of an individual came into discussion when primitive mammal changed its posture from pronograde to orthograde. The study of human evolution, racial differences, inheritance of body traits, growth and decay of human organism is called physical anthropology (Choudhary S and Singh SK, 2012).

Stature of a person is an inherent trait, the estimation of which is believed to be a crucial appraisal in recognition of unknown human corpse (Parikh CK, 1998).

Stature is a major indicator of body size and of bone length. Stature is a composite measurement including head, neck, trunk and extremities. Specific segment lengths and ratios between segment lengths are used in studies of growth and maturation of body (Tanner JM et al., 1956). The length of certain long bones represents a relationship in the form of proportions to the total stature (Bhatnagar DP et al., 1984). This fact has
been studied to predict stature from metacarpal bone length (Musgrave JH and Herneja NK, 1978).

Artists use dimensional relationships (canons) in depicting the ideals of beauty, and this has resulted in the creation of rules of body proportions. The earliest evidence of the use of rules comes from the Ancient Egyptians (Richer P and Hale BR, 1971). In contrast, anthropologists obscure and compare the associations between segments of body to high light variations between ethnic origins and to refer them to locomotor forms, energy usage and life-style (Muncie HL et al., 1987).

Anthropometry is a system chiefly used for the identification of habitual criminals. It is also called the Bertillon system named after (Bertillion A, 1886). It is applicable only to the adult, since it is based on the principle that after twenty one years of age no change occurs in dimensions of the skeleton during the rest of the life and that the ratio in the size of different parts to one another varies considerably in different individuals (Mathiharan K and Patnaik AK, 2005).

Anthropometric measures are part of the nutritional assessment which is an important constituent of health care. Measuring the stature of an individual with accuracy is really important, because it forms the basis for estimation of basal energy expenditure and consequent nutrient demands and for calculation of nutritional indices. Still, common methods for assessment of nutritional anthropometrics are not entirely satisfactory in elderly person. Certain measures such as stature may be difficult to achieve due to postural changes, thinning of discs of spinal column and reduction in the height of the vertebrae and are related with ageing (Tanchoco CC et al., 2001).

Health professionals often under estimate the medical significance of exact measurement of stature. Even height is a critical variable for calculation of basal metabolic rate (BMR), body surface area (BSA) for dosages of drug, vital capacity, renal clearance and body mass index (BMI). All of these are critical factors in providing high quality health care to all patients and particularly those with serious maladies. Moreover,
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height can be difficult or impossible to measure accurately on patients who have terms such as pain, weakness compression fracture of vertebrae or paralysis (Brown JK et al., 2002).

In turkey, the earthquake in August 1999 and the terrorist attack on the World Trade Centre produced great challenges in the efforts produced for identification. The same is truthful for all mass disaster like (wars, terror events, accidents and natural disasters) where proper height estimation is important for victim recognition. (Ozaslan A et al., 2006).

Measurements of stature is necessitated for assessing children’s growth, in computation of nutritional indexes for children and adults for standardization and prediction of physiologic parameters such as volumes of lung, muscular strength, glomerular filtration, metabolic rate and in adjustment of drug dosage in patients. Even so, in many cases measurement of height of body is impossible due to malformations of the legs or trunk, amputations in lower limb, fractures or contractures or in patients who are unable to stand (Zverev YP, 2003).

It is well documented that Patients own hand act as a tool for approximation of burn injury area. One percent of surface area of the body is denoted by the area of palmar surface of one hand. This study also attempted to find out natural history of the hand’s growth for permitting development of a readily useable bedside way of estimating body surface area and hand (Amirsheybani HR et al., 2001).

For studying the utility of hand’s size as guidebook in predicting size of body, length of hand as a predictor of body surface and body mass was examined and it was found that hand length is a simple dimension that could be used as guide for the treatment. By the hand length one can predict body weight as well as body surface area separately of the sex of the subject (Amrisheybani HR et al., 2000).

The hand acts as the expresser of emotional states yields a study in itself, it is a study that the doctor cannot afford to omit, and it is one to which some artist have given a
less attention. The “expression” of the hand is a thing impossible to specify, and yet it is a very real element. It is more easily noted by its absence, and it is frequently very amazing to see how absolutely unlike, the real hand is even the most perfect plaster cast (Jones FW, 1949).

The function of the human hand in terms of discrete movement of the joints and the action of individual muscles is well adequate implicit. Little is known, however of the movement of the hand as a whole. It is possible to talk roughly of opening, closing or cupping the hand, of selected positions such as the pinch or hook or of prehensile serves such as gripping and grasping. These terms are not only unscientific but have little or no cosmopolitan connotation (Napier JR, 1956).

There is an important correlation between stature and parameters such as hand length and foot length. If one is known, the other could be predicted and vice versa. This could be of help in medicolegal instances for recognition of body parts and also be of use in cosmetic surgery (Oommen A et al., 2005).

Despite the kinships between body parameters that have been found out, it has been stressed that these vary from one population to other population and ethnicity to ethnicity due to the differences in nutrition and degrees of physical activity (Santosh K et al., 2014).

To the best of our cognition such data point are not easy to get for population of Rajasthan. Therefore this study was carried out to assess and correlate the hand breadth, hand length, digit length, phalanges of (middle finger), foot breadth, foot length and the stature and to predict the stature of an individual by handlelength, foot length etc. using regression analysis.