The Medicinal Value of Camel Milk and its Significance to Food Security in the Northern Kenya Region.

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INTRODUCTION

Camel can produce more milk for a longer period of time in arid zones and harsh environment than any other domestic livestock species(Ahmed et al., 2015).The daily yield of camel milk ranges from 3 to 10 kg in a lactation period of 12 to 18 months (Gizachew et al., 2014). Camel milk, (white gold of the desert), is more similar to human milk than any other milk and differs from other ruminant milk as it contains low cholesterol, low sugar, high minerals , high vitamin C and protective proteins.

It has also been reported that camel milk contains low quantity of β-casein and lacks β-lactoglobulin which cause allergic reaction in lactose intolerant persons (Konuspayeva et al., 2009).

Moreover, camel's milk is unique in terms of antioxidative factors, antibacterial, antiviral, antifungal, anti-hepatitis, anti-aging, treatment of paratuberculosis, hypoglycaemia, cancer and can also be a remedy for autoimmune diseases (Al-Juboori et al., 2013, Sharma et al. ,2014, Keskes, 2015).

AIM

This paper is aimed at reviewing the medicinal importance of camel milk and their significance in achieving food security status among the residence of the Northern regions of Kenya.

CONCLUSIONS

i. Camel milk plays a crucial role in keeping the pastoralists in good health.

ii. Camel is an the animal that can adequately address the effect of poverty in Northern Kenya.

iii. Camel production will open up the arid lands finally reversing the rural urban migration, improved food security, and subsequent development of the associated cottage industry stimulating socio-economic growth in the ASAL's of Kenya.

LITERATURE REVIEW:

1.Medicinal value of Camel Milk:

a. *Anti-Diabetic Properties of Camel Milk*- camel milk helps in the reduction of insulin requirement in type 1 diabetic patients (Agrawal et al., 2011). the components of camel milk e.g. insulin like protein; lactoferrin and immunoglobulins are responsible for camel milk as anti-diabetic.

b. *Anti-Bacterial and Antiviral Properties* - lactofferin in camel milk has inhibitory activity on both Gram-positive and Gram-negative bacteria in vitro (Lee et al., 2004,FarnaudS et al., 2004,Nozaki A et al., 2004)

c. *Camel Milk for Treatment of Autism*- The milk contains protective proteins, including Igs necessary for initiating the immune system and nutritional advantages for brain development (Al-Juboori et al., 2013).

d. *Treatment for Allergies*- camel milk lacks β-lactoglobulin protein and thus do not cause problem of allergies in sensitive individual.

e. *Anti-Diarrheal Properties of Camel Milk*- rotavirus is the most common cause of diarrhoea in children under 5 years old (Greenberg and Estes, 2009). Since camel milk is rich in anti-rotavirus antibodies the diarrhoea subsides among the children using these milk.

f. *Therapeutic Effect of Camel Milk on Hepatitis*-The special fat in camel milk soothes the liver and has beneficial action on chronic liver patients (Saltanat H, 2009).

g. *Camel Milk for Treatment of Arthritis*- lactoferrin protein removes free iron from joints of arthritic patients thereby improves arthritis (Panwar et al., 2015).

2. Contribution to Food Security in Northern Kenya Region.

Camels contribute to the food security of the communities in the ASALS in various ways:

a. *Milk*-They supply milk even during long drought when other animals in the region ceases to produce.

b. *Meat*- After the best males have been selected for breeding or riding, the remaining ones are slaughtered for meat.

c. *Blood*- camels could contribute up to 5 liters of blood per animal, (Wilson, 1984), twice or once per month without any physiological effects.

d. *Traction*- Camels have been used in ploughing, pulling or carrying loads in arid areas as a way of enhancing food security.

e. *Other* by-products including hides, wool and hair are all good source of income for the pastoralists.