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List of abbreviations

AAF	: Aggregative adherence fimbriae
BCM	: Biosynth culture medium
BFP	: Bundle-forming pilus
cAMP	: Cyclic adenosine monophosphate
cGMP	: Cyclic guanosine -5- monophosphate
CFAs	: Colonization factor antigens
cfu	: Colony forming unit
CP	: Capsular polysacharride
CT. SMAC	: Cefixime tellurite sorbitol MacConkey agar
CLED	: Cystine lactose-electrolyte defecient
DAEC	: Diffusely adherent Escherichia coli
DA	: Diffuse adherence
DNA	: Deaoxy ribonucliec acid
DsbA	: Disulphide isomerase bond A
EC broth	: Escherichia coli broth
EAF	: Enteropathogenic Escherichia coli adherence factor
EAEC	: Enteroaggregative Escherichia coli
EAST	: Enteroaggregative heat-stable toxin
EHEC	: Enterohaemorrhagic Escherichia coli
EIEC	: Enteroinvasive Escherichia coli
ELISA	: Enzyme Linked Immuno Sorbent Assay
EMB	: Eosine methylene blue
EPEC	: Enteropathogenic Escherichia coli
ETEC	: Enterotoxigenic Escherichia coli
GM	: Ganglioside receptor
HGMF	: Hydrophobic grid membrane filteration
HUS	: Haemolytic uremic syndrome
IMS	: Immuno-magnetic seperation
KDa	: Kilo Dalton
LA	: Localised adherence
LST	: Lauryl sulphate tryptose broth
MPN	: Most propable number
MUG	: 4-methyl umbelliferyl-beta-D-glucuronide
PCA	: Plate count agar
PCFO$_{159}$	: Putative colonization factor O$_{159}$
Per	: Plasmid encoded regulator
sepA/sepB	: Secretion of proteins
STEC	: Shiga toxin-producing Escherichia coli
XLD	: Xylose lysine deoxycholate agar

CONCLUSION

The results obtained from this work allow to conclude that a large proportion of raw milk and dairy products exposed for sale in Assuit City, Egypt are contaminated with enteropathogenic Escherichia coli (EPEC) O_{111}, O_{55}, O_{126} and enterohaemorrhagic Escherichia coli (EHEC)O_{157}:H_7.

Enteropathogenic E.coli causes about 30-40% of infantile diarrhoea, as it is the most frequently isolated pathogen from milk and milk products and illness caused by enterohaemorrhagic E.coli can range from self limited watery diarrhoea to life threatening manifestations such as haemorrhagic colitis, haemolytic uremic syndrome, thrompocytopenic purpura and may lead to death.

So the presence of Escherichia coli in raw milk and its products conistitutes a puplic health hazard. Therefore, to improve the bacteriological quality of raw milk and its products and to safeguard consumers from infection, the following suggestions should be taken into consideration:-

- **Raw milk should be collected and maintained in good hygienic condition.**
- **The milk should be pasteurized undergo a full pasteurization or by an equivalent process to avoid hazards from pathogens.**
- **Good hygienic condition should be maintained throughout manufacture, distribution and storage until consumption.**

- **A hygienic practices among workers sharing in the production and handling of milk should be provided.**
- **Only healthy persons who have a sense of hygiene should be employed and they should pass a periodical medical examination.**
- **Adequate control through periodical inspection on farms by specialists to insure those errors are corrected.**

In conclusion, it seems necessary that concerned authorities should impose regulation and bacteriological standards and take active part in the control of produced milk and its products to ensure a maximum of safety to the consumers.

SUMMARY

The presence of E.coli in milk and milk products renders the products unfit for human consumption also, its presence is a reliable index of feacal contamination . Therefore, this work was performed for isolation, counting and identification of enteropathogenic E.coli O_{111}, O_{55}, O_{126} and enterohaemorrhagic E.coli $O_{157}:H_7$.

One hundered and fifty samples (50 each of raw milk, kariesh cheese and yoghurt) were collected from different localities in Assuit City, Egypt. The raw milk and yoghurt was obtained from different dairy shops and kariesh cheese from street vendors.

The results revealed that 44% of the examined raw milk samples (50 samples) were contaminated with E.coli. However, the incidence of E.coli in kariesh cheese samples was 24% and in case of of yoghurt samples E.coli could be detected in 26% of the examined samples.

Statistical analysis of the incidence of E.coli in the three products was performed and was significant P value (0.035) between raw milk and kariesh cheese and X^2 (4.456). However, between kariesh cheese and yoghurt it was non significant P value (0.817) and X^2 (0.053), also between raw milk and yoghurt it was non significant P value (0.059) and X^2 (3.580). In addition to the relation between the three products was non significant P value(0.060) and X^2 (5.639).

Moreover, 36.36% from the examined raw milk samples had counts of less than 10 cfu/ml, also 36.36% had counts of 10-10^2 cfu/ml, while 27.27% contained 10^2->10^3 cfu/ml, the frequency distribution of the examined kariesh cheese were 16.67% less than 10 cfu/g, 33.33% lies within the range of 10-10^2

cfu/g and 50% contained 10^2 - > 10^3 cfu/g and the highest frequency distribution in yoghurt was 69.23% which contained less than 10 cfu/ml, 23.08% lies within the range of 10-10^2 cfu/ml and 7.69% contained 10^2->10^3 cfu/ml.

Statistical analysis of the frequency distribution of E.coli in the three different products within different intervals (<10, 10-10^2 and 10^2-10^3) was performed and was non significant P value between raw milk and kariesh cheese (0.336) and X^2 (2.181), also non significant P value (8.142) between kariesh cheese and yoghurt and X^2 (0.017). In addition to the relation between raw milk and yoghurrt which was non significant P value (0.146) and X^2 (3.843) and the relation between the three products was non significant P value (0.063) and X^2 (8.936).

The isolated strains of E.coli in raw milk, kariesh cheese and yoghurt were serologically identified as O_{111}, O_{55}, O_{126} and O_{157}:H_7. In raw milk were 22.73%, 18.18%, 13.64% and 45.45%, respectively. While in kariesh cheese were 25% , 16.67%, 33.33% and 25%, respectively. In yoghurt samples proved to be 30.77%, 23.08%, 15.38% and 30.77%, respectively.

Statistical analysis of the serological identification of the isolated strains in the three products was performed and was non significant P value (2.340) between raw milk and kariesh cheese and X^2 (0.505), also between kariesh cheese and yoghurt was non significant P value (1.114) and X^2 (0.774). In addition to the relation between raw milk and yoghurt was non significant P value (0.859) and X^2 (0.761) and the relation between the three products was performed and was non significant P value (0.795) and X^2 (3.112).