

Isolation of parasitic ova from different locations in Karachi: potential source of the infection through the Pakistani currency

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Background: Parasitological ova are usually related to food spoilage, but they'll also produce toxins, thus their presence on bank notes and on coins is additionally undesirable causing serious illness especially the respiratory illness, diarrhea and therefore the itching wound of anal area to children and parasitic infection. Study is meant to supply the primary insight and increase the limited body of literature on microbial contamination of currency (Pakistan currency circulating in country, papers also as coins currency) and to deal with growing community concerns about the danger related to microbial contamination and handling of cash within the country.

Objectives: To identify the common pathogens residual on circulating Pakistan's currency. To take the effective measure regarding bio-safety in Pakistan currency circulating in Pakistan. **Setting & Study Duration:** Study was conducted at Microbiology Department Basic Medical Sciences Institute (BMSI), Jinnah Postgraduate Medical Centre and Microbiology Department SIUT, Karachi. Study period was from 4.3.2010 to 31.1.2011.

Material & Methods: Total 720 samples were taken from different locations i.e. bank counter 243, ATM machine 50, food seller 94, medical store 35 samples, milk seller 92, grocery shop 63, meat shop 80, road side mechanic 36, bus conductor 4 and beggars' 23. All the specimens were grouped according to currency denominations (Group I -IX) and all specimens were processed according to standard methods.

Result: The ova of *A. lumbricoidis* were isolated in higher number that is 25.9% (187) of the 720 sample, along with the isolation of *E.vermicularis* 60 (8.3%) and *Tinea saginata* 23 (3.19%).

Abstract

There are numerous studies of occurrence of microorganisms specially the parasitological ova isolation from the banknotes and coins and causing serious hazard to the community. Parasitological ova are usually related to spoilage in foods, but they'll also produce toxins and adult parasite after mature can make serious illness and thus their presence on banknotes and on coins is additionally undesirable and causing serious illness especially the respiratory illness, diarrhea and therefore the itching wound of anal area to children and parasitic infection. Modern bank notes are made from special blend of 75% cotton and 25% are of linen with small segment of fiber so folding money are some things of a in isomer, this formation is of folding money is that the potential source, substrate for the

survival of the parasitological ova. While from different locations we buy day to day commodities we transfer these microorganisms from one location to a different location and transferring diseases specially to the depilated patients and immunocompromized patients who are at high risk and susceptible to get disease. the typical lifetime of low denomination paper banknotes is about 24 months. Study is meant to supply the primary insight to feature to the limited body of literature on microbial contamination of currency (Pakistan currency circulating in country, papers also as coins currency) and to deal with growing community concerns about the danger related to microbial contamination and handling of cash within the country.

Objectives:

- To identify the common pathogens residual on circulating Pakistan's currency.
- The microbial contamination of currency to enrich in global information bank on subject as the issue is becoming a major public health concern worldwide.
- To take the effective measure regarding bio-safety in Pakistan currency circulating in Pakistan.

Methodology: In this total study 720 samples were taken from different locations i.e. from Bank counter 243 samples, TM Machine 50 samples, Food seller 94 samples, Medical store 35 samples, Milk seller 92 samples, Grocery shop 63 samples, Meat shop 80 samples, Road side mechanic 36 samples, Bus conductor 4 samples and from Beggars' 23 sample while study period was from 4.3.2010 to 31.1.2011 all the specimens were processed according to standard methods.

Material and Method: As Per Criteria

Keywords: Parasitological ova; Parasitic infection; Pakistan currency; Microorganisms

Introduction

Some mathematical models have been developed to help to understand the movements of currency and how this might contribute to the global spread of disease. A study in the US showed that only 6% of banknotes tested were free from microbial contamination.

The possibility of currency contamination with microorganisms has also been observed among food handlers. An assessment of the public health risk associated with the simultaneous handling of food and money in the food industry in Australia.

The surface of paper banknotes is not smooth, but irregular, and can harbor many different types of microorganisms. The two main factors that determine the occurrence of bacteria on currency are

- The material that the banknotes are made

- from and
- b. The age of the banknote. Bacteria have enormous capabilities to allow them to survive in adverse conditions. Two of the most important strategies for survival are their ability to adhere to surfaces and the ability to form biofilms (multicellular aggregates) .

The environment plays a critical role in transmission to humans, with many environmental materials serving as vehicle . Microbial contaminants may be transmitted either directly, through hand-to-hand contact, or indirect, via food or other inanimate objects. These routes of transmission are of great importance in the health of many populations in developing countries, where the frequency of infection is a general indication of local hygiene and environmental sanitation levels . The occurrence of bacteria on currency are

- a. The material that the banknotes are made from and
- b. The age of the banknote .

Enterotoxigenic E.coli, Vibrio and Salmonella have been isolated from currency notes, from butchers and fishmongers in Rangoon, Myanmar. Paper money in Egypt was found to be contaminated with bacteria organisms such as *Staphylococcus aureus, Staphylococcus albus* and *Koebesiella pneumoniae*. Similar reports have been made in India .

Biography

Maria Jawed has completed her M.Phil from Liaquat University of Medical and Health Sciences. She has published 10 papers in reputed journals. Her area of research interest includes diagnostic Pathology.

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