Many authors detected significant co-occurrences of pesticide residues in different foods and milk, which is a major source of food of pregnancy and lactation women (Abdel Gawead, 1985) and infant contamination. Therefore, a study was conducted to assess the environmental levels of pesticide residues in milk during the period from 1992 up to 1995 (Abdel Gawead, 1997) and in EGYD, 60,000 metric tons of apple, 182 pesticide residues were used in EGYD. Furthermore, the main milk of pesticide residues intake is obtained from the different types of milk.

The EDI of XADM, ZCRM and Lithium residues were below the ADI levels. The residues of some organochlorine insecticides in these groups of foods and the average weight for Egyptian infants during the first year of life and the weighted daily intake of some organochlorine insecticides in these groups of foods for the Egyptian infants during the first year was estimated based on the reference analysis daily intake of different foods as assessed in a previous survey; the calculated daily average intake of some organochlorine insecticides was obtained by the Food and Agriculture Organization of the United Nations (FAO).

**ABSTRACT**

**Title:** Pesticide Residues During the First Year Egyptian Infant Average Daily Intake of Some Of Life

**Authors:** Ezz Z. M. Selim, A. A. Abdel Gawead

**Institution:** Alexandria University, Faculty of Agriculture, Microbiology Department

**Affiliation:** TIPS/UNDP, EGYD

**Keywords:** Pesticide Residues, Infant, Daily Intake, Egypt.


In fish, the organochlorine insecticides were detected by FAMPS test.

In milk, the organochlorine insecticides were detected by FAMPS test.

In ground water, the organochlorine insecticides were detected by FAMPS test.

In areas where the maximum permissible levels of organochlorine insecticides were exceeded, the ground water may be the source of insecticides.

In wheat, the organochlorine insecticides were detected by FAMPS test.

In cereals, the organochlorine insecticides were detected by FAMPS test.

In vegetables, the organochlorine insecticides were detected by FAMPS test.

In fruits, the organochlorine insecticides were detected by FAMPS test.

In vegetables, the organochlorine insecticides were detected by FAMPS test.

In legumes, the organochlorine insecticides were detected by FAMPS test.

In seeds, the organochlorine insecticides were detected by FAMPS test.

In cereals, the organochlorine insecticides were detected by FAMPS test.

In vegetables, the organochlorine insecticides were detected by FAMPS test.

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Daily intake.

Raisins, in relation to the established international Maximum Permissible Average residue level of (1), and the average weight of Figs., in-

tained in relation to the average daily intake of basic types of foods on the basis of the Egyptian average daily intake of basic types of foods such as rice, wheat, bread, and beans, the average daily intake of some persistent pesticides in different foods consumed by the Egyptian in

this study, we aim to monitor the average pesticide residue level.

Information on the daily intake of contaminants is of special health

and 0.17 mg/kg respectively.

level, the average daily intake of HCH, DDT, Dieldrin were 1.00, 0.45-

collected, DDT, Dieldrin were found in 92 and 68% of samples respec-

tively. The average daily intake of HCH was detected in 100% of samples

(0 - 3 years old). They found that HCH was detected in 100% of samples

Yoshida, et al., 1986 showed the daily intake of pesticides in infants

and toddlers collected in Sao Paulo, Brazil.

and identified at multi-flow levels in 10% of samples of vegetables,

which were collected in 1980 detected residues of DDT, Ethyl, Aldrin, Dield-

Umebayashi, et al., 1986 detected residues of DDT, Ethyl, Aldrin, Dield-

reached 10 ppm.

BHC p,p’-DDE and DDT. The total organochlorine residues in olive oil

BHC, p,p’-DDE and DDT. The total organochlorine residues were HCH, DDT-

of the other residues, all the most common residues were HCH, DDT-

indices in vegetable oil. In peanut, and sesame oil were the most common residues.

Mortiny and De Andrade, 1989 detected organochlorine pesticide resi-

ue of the analyzed samples.

percentage of samples contained residues exceeding the EPA tolerance: 1%.

percent of samples contained residues exceeding the EPA tolerance: 1%.

in Morocco, respectively. In 1990, 12.79% of samples contained residues exceeding the EPA tolerance: 1%.

In simulation, Musarrat, et al., 1998 in Kenya detected high residues in cereals. They

indices of HCH, DDT and DDT in range 0.1 - 0.4 mg/kg for Dieldrin.

detected 10 pesticides, the concentrations of total DDT at range 0.1 -

Kumano, et al., 1988 studied the pesticide residues in meat. The res-

In summary, the Figs, are a good source of HCH, DDT, Dieldrin and other

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RESULTS AND DISCUSSION

For: 250°C

(1) Operating Temperature: Injection: 250°C, Column: 300°C, Detector- Carried out at a flow rate of 30 ml/min.

(2) Column: Glass column, 1/8 in. long and packed with OV 1.

An analysis was performed on 100 mg liquid chromatography equipped with an electro negative detector under the following conditions:

Gas chromatography determinations:

In a suitable cup, 1 ml of the sample was concentrated to 1 ml by blowing a stream of air over the benzene. The separated extracts were extracted with 25 ml of benzene in a single extraction. 500 ml sample was extracted with 25 ml of benzene, and this process was repeated.

A modified AOAC method reported by Zanuel et al., 1979 was con-

(3) Water:

A modified AOAC method reported by Zanuel et al., 1979 was con-

(2) Milk:

The universal method (Schornbusch and Phillips, 1967).

Extraction and clean-up:

Water, samples were kept at 18°C until analysis.

Beans, rice, cereals, vegetables and fruits:

Samples collected milk (human, Powder, and fresh), eggs, meats,

Procedure of FAO/WHO Standards Programme (CIFAP, 1982):-

Samples of a local diet were collected according to the sampling

MATERIALS AND METHODS
considered that chlorinated hydrocarbons constitute a major hazard leading
calcium from mothers' milk and the results of EF-SPEX, ET al., 1980, which reported that newborn infants drank as a result of H.O. imports.

1982 which reported that newborn infants drank at a result of H.O. imports.

Considering the results of Graber et al., 1986 and Peters et al.,

hazards of environmental pollutants, human adults,

An overview of the results indicates the existence of problems made by

less than the ADI.

Conclusion the estimated daily intake of DDE and Lindane were

estimated the daily intake was 21.87% fold of the ADI, while for

their intake of EF-Phenol, the ADI established by FAO/WHO shows that EF-Phenol

does in Egypt with the ADI established by FAO/WHO, the result of the estimated daily intake (EDI) of pesticides risk.

The comparison of the estimated daily intake (EDI) of EF-Phenol intake

first year of life (Table III).

From table I and II we can calculate the average daily intake of EF-Phenol intake during their


Table I: Average composition of the total daily diet of an

Egyptian infant in the first year of life in grams

<table>
<thead>
<tr>
<th>Consumption</th>
<th>Average</th>
<th>Type of food</th>
</tr>
</thead>
<tbody>
<tr>
<td>900.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28.300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.935</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.725</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>125.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>64.775</td>
<td></td>
<td></td>
</tr>
<tr>
<td>287.775</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fruits and vegetables

Raw

Cooked

Cereals

Rice

Beans

Milk

Fresh meals

Eggs

Powder

Human

Table I: Average composition of the total daily diet of an Egyptian infant in the first year of life in grams.
<table>
<thead>
<tr>
<th>Type of Food</th>
<th>Egyptian Diet</th>
<th>American Diet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread</td>
<td>N.D.</td>
<td>N.D.</td>
</tr>
<tr>
<td>Cereals</td>
<td>N.D.</td>
<td>N.D.</td>
</tr>
<tr>
<td>Rice</td>
<td>N.D.</td>
<td>N.D.</td>
</tr>
<tr>
<td>Beans</td>
<td>N.D.</td>
<td>N.D.</td>
</tr>
<tr>
<td>Eggs &amp; Meat</td>
<td>N.D.</td>
<td>N.D.</td>
</tr>
<tr>
<td>Fresh Milk</td>
<td>N.D.</td>
<td>N.D.</td>
</tr>
<tr>
<td>Powder Milk</td>
<td>N.D.</td>
<td>N.D.</td>
</tr>
<tr>
<td>Human Milk</td>
<td>N.D.</td>
<td>N.D.</td>
</tr>
</tbody>
</table>

**Table II: Presence of Residues in Daily Diet of Egyptian Infant**

Ezz et al.: Egyptian Infant
REFERENCES

Local circumstances and consumption habits must be based on information on residues, available health-related data, our needs to establish a maximum tolerable level (MRL) for residues in foods. This is the need to set up maximum residue levels (MRLs) in foods. We can conclude from these data that there is no pollution of breast milk and finally, we can conclude that there is no pollution of breast milk.

<table>
<thead>
<tr>
<th>Radioactivity (Bq/L)</th>
<th>Radioactivity (Bq/L)</th>
<th>Radioactivity (Bq/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3206</td>
<td>0.000803</td>
<td>0.00266</td>
</tr>
<tr>
<td>0.1390</td>
<td>0.000200</td>
<td>0.00626</td>
</tr>
<tr>
<td>0.7900</td>
<td>0.001000</td>
<td>0.00187</td>
</tr>
<tr>
<td>0.4968</td>
<td>0.002000</td>
<td>0.00296</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Residue</th>
<th>Residue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lorraine</td>
<td>0.015397</td>
<td>0.003753</td>
</tr>
<tr>
<td>Benin</td>
<td>0.013121</td>
<td>0.00016</td>
</tr>
<tr>
<td>Djerda</td>
<td>0.059616</td>
<td>Djerda</td>
</tr>
</tbody>
</table>

Table III: Total and average daily intake of pesticide residues.