



KRR GOVT. ARTS & SCIENCE COLLEGE KODAD

(Affiliated to Mahatma Gandhi University)
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Department of Chemistry

Heys
PRINCIPAL
K.R.R. Govt. Arts & Science College
Kodada-508 206, Suryapet Dt.(T.S.)

KRR GOVERNMENT DEGREE COLLEGE, KODAD

DIST: SURYAPET



A REPORT

ON

ONE DAY National Webinar

On 22-06-2020

Organised by Department of chemistry

KRR GOVERNMENT DEGREE COLLEGE, KODAD

MDL: KODAD, DIST: SURYAPET

Resource Person: Dr. Ch. Sudhakar

Asst. Professor of Chemistry

GITAM Deemed to be University, Hyderabad

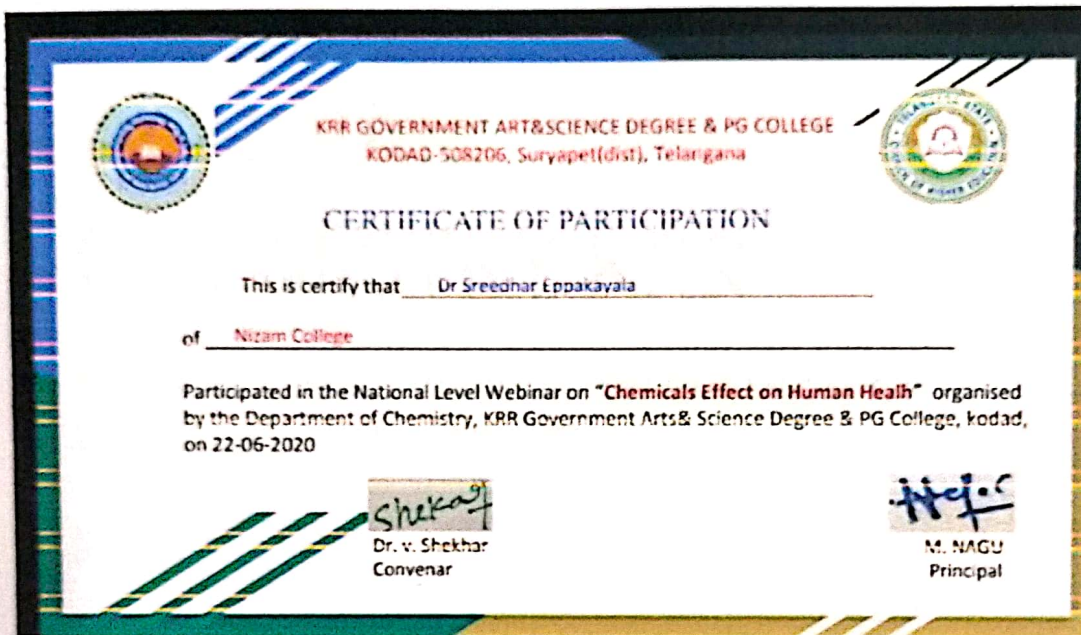
PRINCIPAL

**K.R.R. Govt. Arts & Science College
Kodada-508 206, Suryapet Dt.(T.S.)**

REPORT

A Webinar on the topic "Chemical Effects on Human Health" was organized by Department of Chemistry KRR GOVERNMENT DEGREE COLLEGE, KODAD in online Mode in ZOOM meeting and invited speaker Dr. Ch. Sudhakar Asst. Professor of Chemistry GITAM Deemed to be University, Hyderabad on

20th June 2020 at 11.00 A.M



Certificates of webinar

< WEBINAR CHEMISTRY KRR - Go...

WEBINAR CHEMISTRY KRR

Questions Responses **150**

WEBINAR CHEMISTRY KRR

KRR GDC, KODAD, WEBINAR ON CHEMICALS
EFFECT ON HUMAN HEALTH

Email *

Valid email

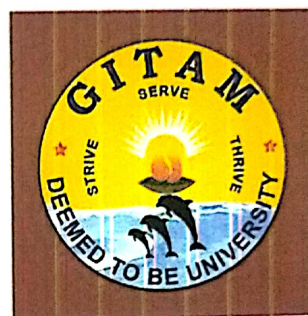
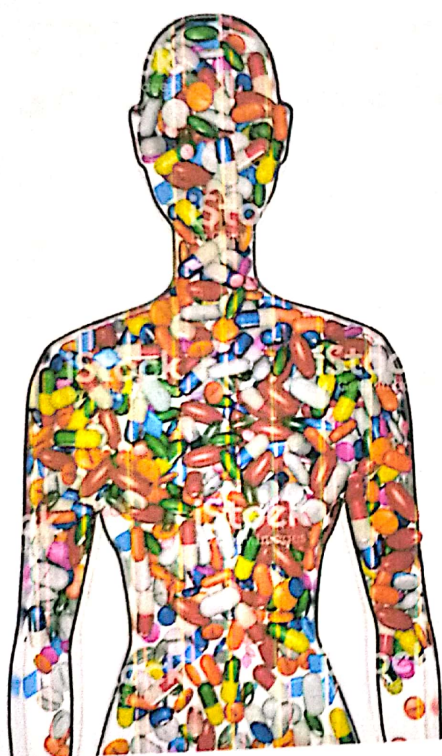
This form is collecting emails. [Change settings](#)

FULL NAME

Short answer text

Screen shot of Zoom meeting at time conducting webinar

CHEMICALS EFFECT ON HUMAN HEALTH



Dr. Ch. Sudhakar
Assistant Professor
Dept. of Chemistry
GITAM Deemed to be University
Hyderabad
sudha1iict@gmail.com

THIS PRESENTATION CONSISTS OF

- SIDE EFFECTS OF DRUGS
- WHAT CAUSES AN ADVERSE EFFECTS
- HOW TO REDUCE SIDE EFFECTS
- WHAT ARE COMMON HOUSE HOLD CHEMICALS
- CHLORINE BASED CHEMICALS
- HYDROGEN PEROXIDE CHEMICAL
- ACIDS
- ALKALIES
- TIPS TO PREVENT POISONINGS

SIDE EFFECTS OF DRUGS ON HUMAN HEALTH

What is side effect?

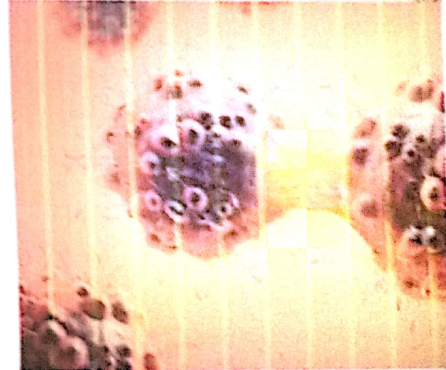
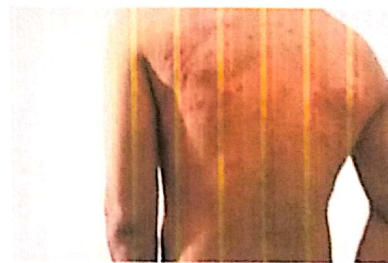
An unexpected medical problem that happens during treatment with a drug or other therapy

Adverse effects can vary for each patient, depending on their general health, the state of their disease, age, weight and gender



Common examples of mild effects

- Constipation
- Skin rash
- Diarrhea
- Dizziness
- Drowsiness
- Dry mouth
- Headache
- Insomnia
- Nausea
- Hair loss
- Weight gain or loss

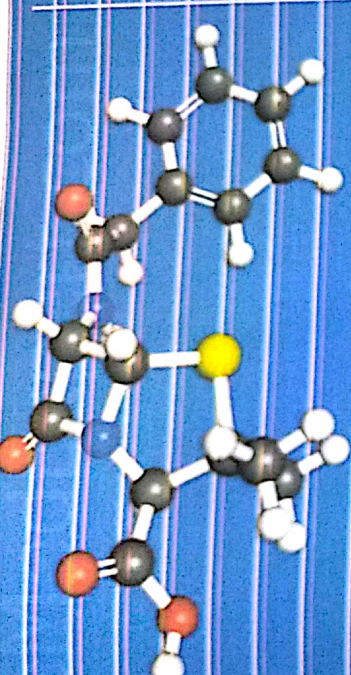


Example for more serious effects

- ❖ Suicidal thoughts
- ❖ Internal bleeding
- ❖ Cancer

Antibiotics

Penicillins Side Effects



Penicillin Hypersensitivity
• skin rash
• fever
• urticaria
• eosinophilia
• anaphylactic shock
(0.004 - 0.005%)

Gastrointestinal
• diarrhea
• nausea
• vomiting
• upset stomach

Hematologic abnormalities
very rare

Neurological side effects
after large doses
of parenteral
penicillins

Interstitial nephritis
after methicillin,
nafcillin

- Natural penicillins
- Aminopenicillins
- Carboxypenicillins

Combination drug



AVRReddy, ACD, BARC, Mumbai

What causes an adverse effect

There are different reasons for side effects linked to drugs

❖ Dosage



❖ An individual reaction to an ingredient in the drug



❖ A drug while killing unwanted cell, destroys healthy cells

❖ Interaction of drug with other substances like other drug, a food, a supplement, an essential oil



HOW TO REDUCE SIDE EFFECTS OF MOST COMMONLY USED DRUGS

Know your medicine: don't blindly accept whatever the Doctor has prescribe without counter questions

Water, Water, Water: Keep yourself hydrated. So drinking adequate water helps in flushing out the toxins present in drugs.



Supplementation:

Most drugs along with the ailment deplete our body's vitamin and mineral stores.



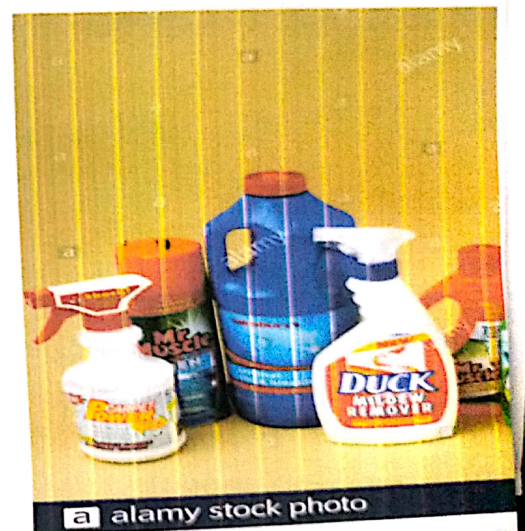
What are common household Chemicals

Floor cleaner

✓ **4X** Cleaning Power!
✓ **2X** More Comfortable Footfeet!




Bleaching agents



HOUSEHOLD BLEACHES: CHLORINE BASED

Most household bleach solutions contain 3% - 5% hypochlorite.

1. swimming pool disinfectants & industrial bleach : up to 20% hypochlorite
2. Bleaches with a hypochlorite concentration greater than 10% are corrosive while those with a concentration of less than 10% are irritants.
3. Ingestion of more than 100 mL in a child or 300 mL in an adult of a household bleach (<10% sodium hypochlorite) may cause significant toxicity.

HOUSEHOLD BLEACHES: HYDROGEN PEROXIDE

Colourless, odourless, acidic oxidizing agent available in from 3 to 90%

INGESTION

- vomiting
- mild gastrointestinal irritation
- gastric distension
- gastrointestinal erosions

INHALATION

household strength hydrogen peroxide (3%) can cause respiratory irritation and mild ocular irritation

Hydrogen peroxide's toxicity is mainly due to the release of oxygen gas causing venous or arterial gas embolism. Each mL of 3% hydrogen peroxide releases 10 of oxygen gas

EXAMPLES OF ACIDS

WEAK IRRITANTS

- ❖ Acetic acid 5-10%
- ❖ Aluminium sulfate 5-20%
- Hydrochloric acid <5%
- Phosphoric acid 15-35%

STRONG IRRITANTS

- ❖ Acetic acid 10-50%
- ❖ Boric acid
- ❖ Hydrochloric acid 5-10%
- ❖ Oxalic acid <10%
- ❖ Phosphoric acid 35-60%
- Sulfuric acid <10 %
- ❖ Zinc sulfate 5-50%

CORROSIVE (DANGER)

- ❖ Acetic acid $\geq 50\%$
- ❖ Glycolic acid $>10\%$
- ❖ Hydrochloric acid $>10\%$
- ❖ Oxalic acid $>10\%$
- ❖ Phosphoric acid $>60\%$
- ❖ Sulfuric acid $>10\%$
- ❖ Zinc sulfate $>50\%$

EFFECTS

- Acids burn less severely than alkalis.
- They cause more severe injury to the stomach than to the mouth & throat
- Systemic poisoning can occur, but only when ingested in large amount

EXAMPLES OF ALKALIS

- Ammonia
- Calcium oxide
- Calcium hydroxide
- Potassium carbonate
- Potassium hydroxide (caustic potash)
- Potassium polyphosphate
- Sodium carbonate
- Sodium hydroxide (caustic soda, lye)
- Sodium phosphate
- Sodium polyphosphate

EFFECTS

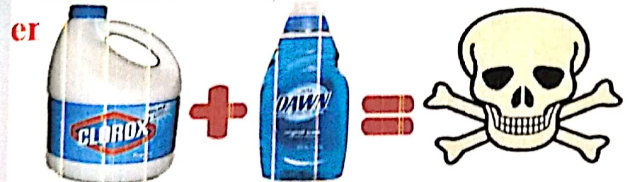
- Alkalis burn more severely.
- They dissolve tissues & penetrate c below the surface of the skin or lining

Tips to Prevent Poisonings

- ✓ Always read the label before using a product that may be poisonous.
- ✓ Keep chemical products in their original bottles or containers. Do not use food containers such as cups, bottles, or jars to store chemical products such as cleaning solutions or beauty products.
- ✓ Never mix household products together. For example, mixing bleach and ammonia can result in toxic gases.
- ✓ Wear protective clothing (gloves, long sleeves, long pants, socks, shoes) if you spray pesticides or other chemicals.



Bleach + Ammonia = Toxic



Read the labels & do your research before mixing household chemicals!!!





**MANY THANKS
FOR
YOUR PATIENT LISTENING**

SPECIAL THANKS TO MY FRIEND Dr. V. SHEKAR FOR INVITING ME