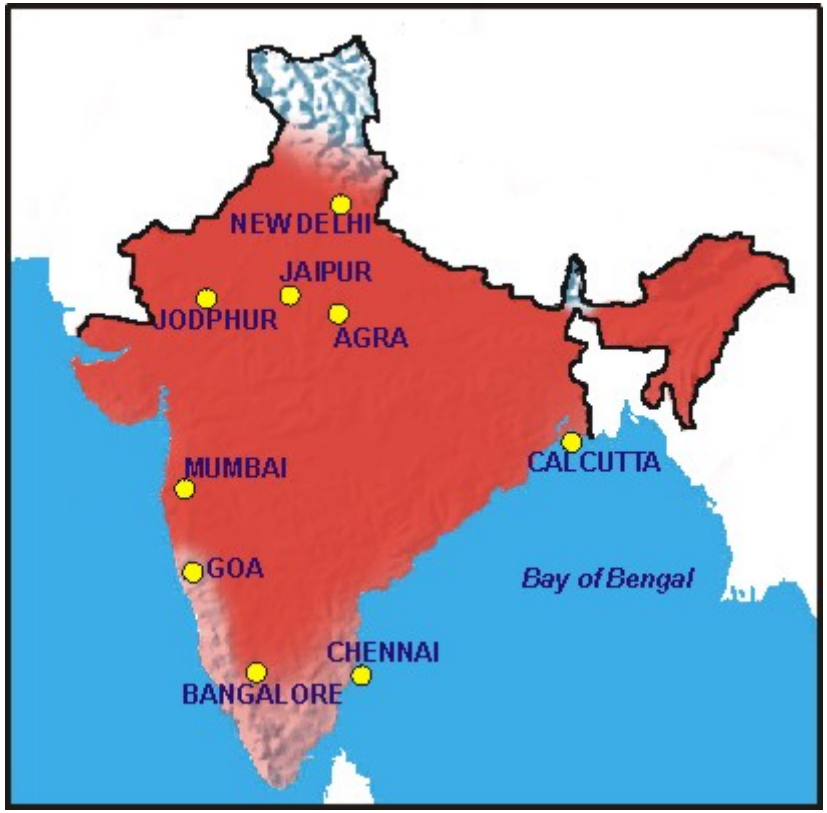
OCCUPATIONAL HEALTH PRACTICE IN INDIA

RAMAZZINI DAYS 2007 - JUBILEE CELEBRATION
25th Anniversary of the Collegium Ramazzini
25-28 October 2007
Carpi, Italy

T K Joshi
Director Occupational and Environmental Medicine programme
E Mail: kantjoshi@gmail.com


NEW DELHI
JAIPUR
JODPHUR
AGRA
MUMBAI
CALCUTTA
GOA
Bay of Bengal
CHENNAI
BANGALORE

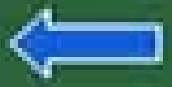
CONSUMPTION: EXPANDING MIDDLE CLASS

India To Have 4th Largest Number Of House Holds Earning > US $5000

Number of households with income >US $5,000 p.a.

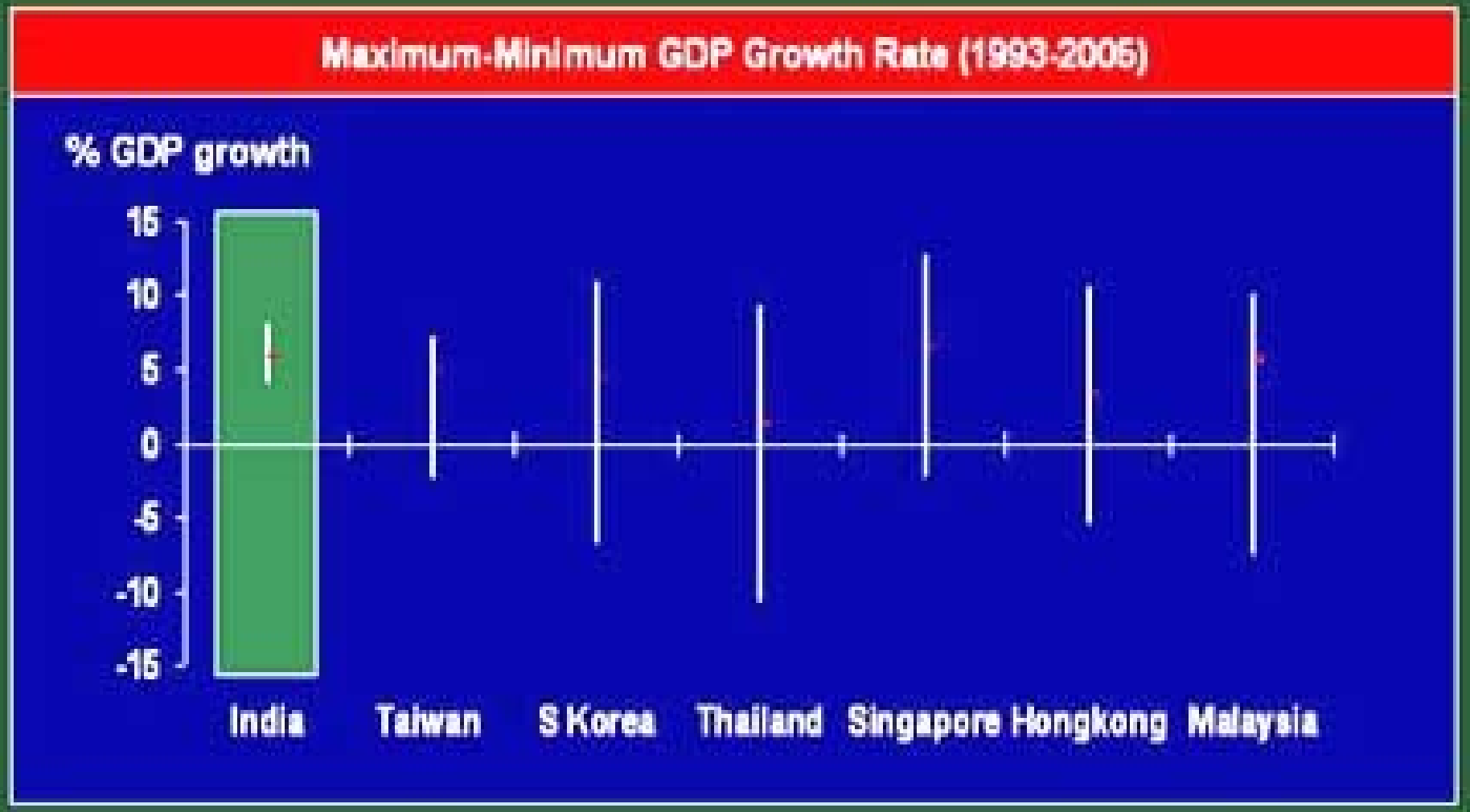
1994	2004	2008
U.S.	U.S.	U.S.
Japan	Japan	China
Germany	Germany	Japan
UK	UK	India
France	France	Germany
Italy	Italy	Russia
Brazil	China	Brazil
Mexico	Russia	UK
Korea	Brazil	France
Spain	Mexico	Italy

Source: EIU Country Data



INDIA: ECONOMIC RESILIENCE

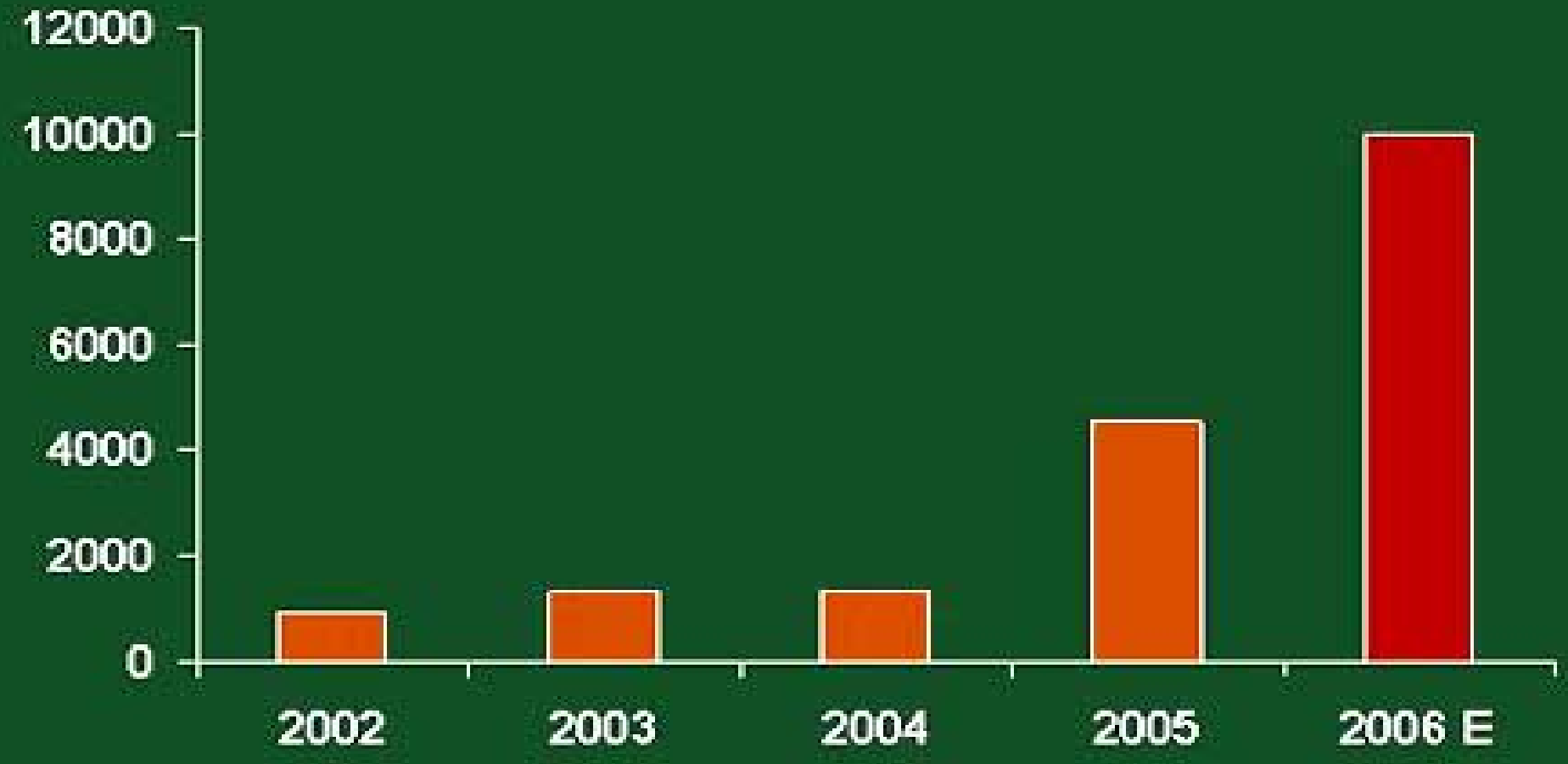
Least Volatile Economic Growth



Source: EIU; World Bank; IMF; Literature review

CONFIDENCE: INDIA INC. GOING GLOBAL

Overseas Acquisitions by India Inc ($ US Million)



Source: Literature Review

Campus

Centre for Occupational and Environmental Health, Maulana Azad Medical College (MAMC)

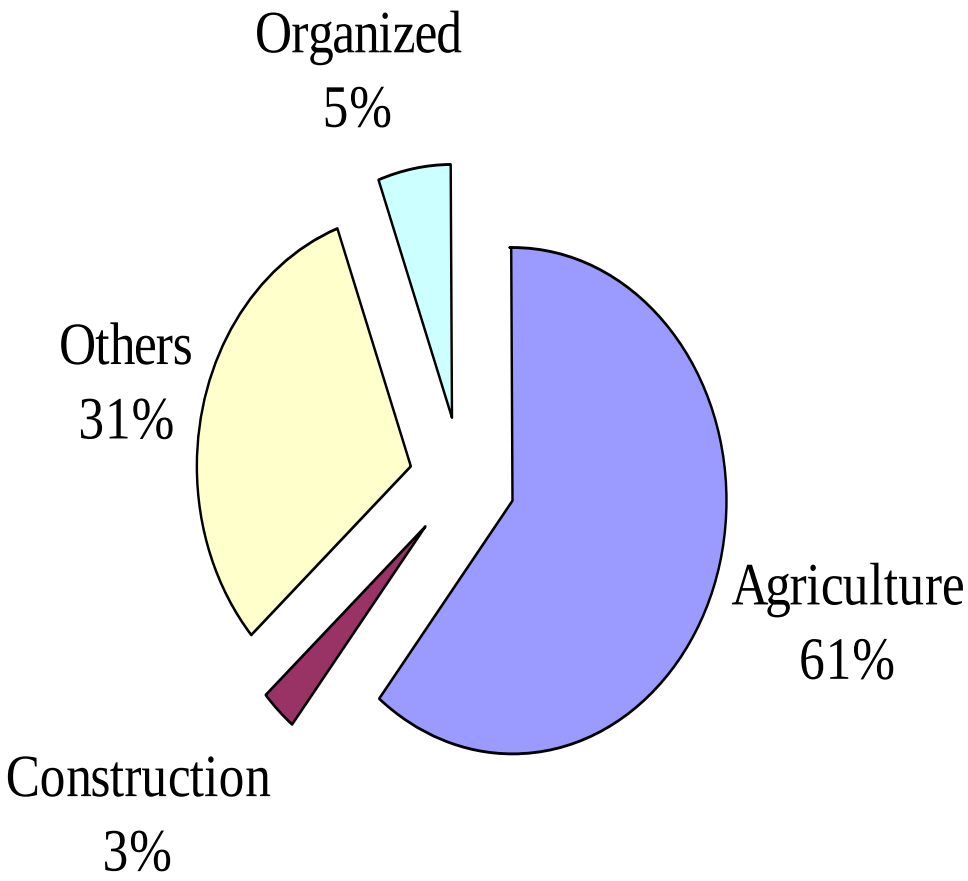
- Amongst 10 best medical schools in India out of a total of nearly 400,
- A 1700 beds tertiary care hospital,
- 500 beds super specialty hospital,
- A 300 beds super specialty eye hospital,
- A super specialty paediatric hospital,
- Most modern dental school,
- College of nursing
- Providing graduate, post graduate, super
- specialty medical education, training and research

CENTRE
FOR
OCCUPATIONAL & ENVIORNMENTAL HEALTH
178985

OCCUPATIONAL & ENVIRONMENTAL MEDICINE CLINIC
TUESDAY, THURSDAY & SATURDAY
S.L. TANE
1st FLOOR
2nd FLOOR
DEPARTMENT OF MEDICINE
ENVIRONMENTAL HEALTH

SIR! THIS DATA TOTALLY DISCREDITS HSE WORKPLACE ILL-HEALTH NUMBERS!
HSE
I THINK IT WOULD BE ADVISABLE TO GO THROUGH IT AND RECALCULATE THE NUMBER OF WORKPLACE VICTIMS!
I DON'T HAVE TIME FOR THAT KIND OF PIFFLING DETAIL!
I'M TOO BUSY COUNTING THE COST TO INDUSTRY!!
HSE
Andy

Employment in 1999 - 2000



India

- 418 505 deaths in India were due to injuries in 1999,
- Increase of 5.2 per cent compared to previous year.
- 62 per cent deaths - in the age group of 15–44 years, More in men,
- Major causes; Transport, predominantly RTIs (81 036), burns (32 000), suicides (110 000); more in rural than in urban areas
- Agricultural and occupational injuries excluded. Injury prevention efforts by the police, transport and legal sectors; no involvement of health sector in prevention.

- WHO-SEARO; Injury Prevention and Control in the South-East Asia Region

OCCUPATIONAL DISEASES IN MANUFACTURING ACTIVITIES

- In Delhi no reporting of occupational disease in last 3 years in 94 factories inspected and 1035 workers examined.

- No pathological investigations or x-rays carried out.

- *Source:: Labour Statistics, Planning & Statistical Cell, Government of NCT of Delhi*

Occupational Diseases- Maharashtra-2001

No.of cases	**Name of occupational disease**	**Harmful agents**
5	Byssinosis	Cotton dust
	Byssinosis	Cotton dust
7	Noise Induced Hearing Loss (NIHL)	High noise level

Tamilnadu – 2003-04

- 4 cases of Byssinosis, 1 of Silicosis.
- Byssinosis reported from the Textile Industry.

- Lone case of Silicosis reported from the Ceramic industry.

- Source; DGFASLI, Union ministry of labour, government of India

West Bengal

- **Occupational Disease cases detected and compensated by**
- **Special Medical Board in year 2000**
- ---

Occupational Disease		No of Cases
(a) Asbestosis	:	3
(b) Byssinosis	:	2
(c) Silicosis	:	13
Total		18

Occupational Disease-West Bengal

S. No.	Occupational Diseases	No of Cases 2001	2000
1.	Silicosis	8	8
2.	Silico TB	4	2
3.	Talcosis		
4.	Byssinosis	2	1
5.	Asbestosis	4	-
6.	Jute Byssinosis	1	-
7.	Other Pneumoconiosis	4	
		23	14

- AP- S**ix** cases of poisoning by Nitrous fumes and **one** Asbestosis notified under section 89 in an industry having NIC 26 (upto the year ending 31/12/02).

- *Directorate General of Factories Advisory Service and Labour Institutes, Mumbai*

Number of workers dead due to silicosis: MP

***Figures from 1999 onwards were not available**.

1994	1995	1996	1997	1998
27	22	29	15	18

States Reporting no occupational disease

- Kerala
- **Goa**
- National Capital Territory of Delhi
- Uttar Pradesh
- Orissa
- Union Territory of Chandigarh
- Assam
- Himachal Pradesh
- Rajasthan
- Gujarat
- **Jharkhand**
- **Karnataka**
- Tripura
- Uttaranchal
-
- Union Ministry of Labour, Government of India; http://dgfasli.nic.in/pub1.htm

Occupational risk management:

(1) Strengthening of OHS policy;

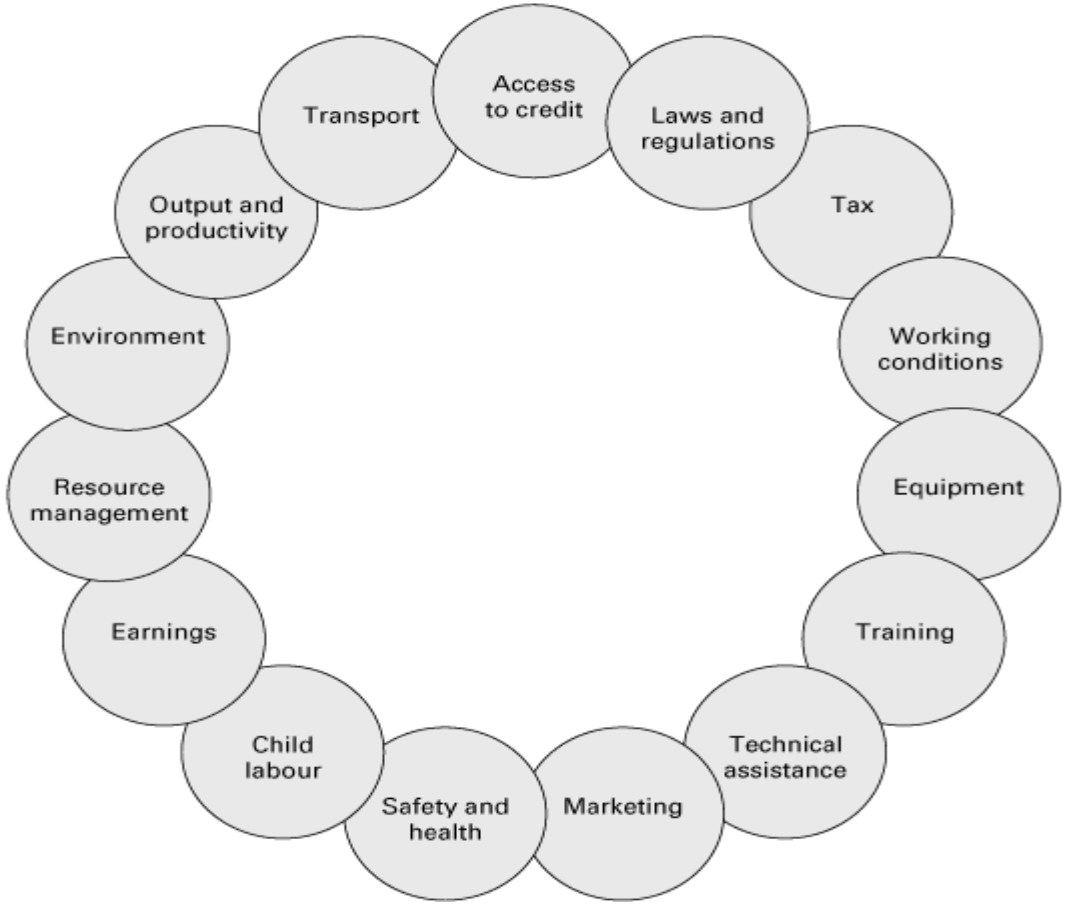
(2) Enforcing engineering control and environmental monitoring;

(3) Biological monitoring & health promotion, and

(4) Planning and epidemiological surveillance.

- Regional Strategy for Occupational Health; *Report of an Inter-country Consultation WHO-SEARO, New Delhi, 28-29 April 2003*

Figure 8.1. Small-scale mining: Overlapping issues



- Social and labour issues in small-scale mines; Report for discussion at the; Tripartite Meeting on Social and Labour

  Issues in Small-scale Mines; Geneva, 17-21 May 1999International Labour Office Geneva Copyright ® 1999 International Labour Organization (ILO)

- Activities of Centre for Occupational and Environmental Health

Capacity Building Through Sustained Taining

YEAR	TRAINING PROGRAMMES	PHYSICIANS	NURSES	OTHERS	TOTAL HEALTH CARE WORKERS
1998-99	17	18	316	30	364
1999-00	51	413	544	77	1034
2000-01	35	424	692	95	1211
2001-02	42	723	798	145	1666
2002-03	32	400	353	261	1014
2003-04	32	242	247	132	621
2004-05	29	237	439	189	865
2005-06	50	441	565	529	1535
2006-07	26	266	182	305	753

Cornell
University,
U.S.A.

Society For
Environment
and Health

TRAINING PROGRAMME

ON

Hazardous Materials Management and Auditing— A Global Perspective

VENUE

DELHI	-	**APRIL 1-5, 1996**
CALCUTTA	-	**APRIL 8-12, 1996**

Organized By

Society for Environment and Health

New Delhi

In Collaboration with

Cornell University, U.S.A.

Centre for Safety and Ergonomics Research University of Nebraska, USA

Society for Environment and Health

Training Programme On

INTERNATIONAL TRENDS IN PREVENTING WORK RELATED DISORDERS- THE ERGONOMICS APPROACH

March 1997

VENUE :

Calcutta : 3-6 March, 1997
Delhi : 10-13 March, 1997

Course - Director :

Dr. T.K. Joshi, National Consultant for World Health Organization (WHO)
Dr. Ram R. Bishu, Department of Industrial Engineering, University of Nebraska
Dr. Krishna Kumar Menon, Director, Ergonomics Concepts, New York
Mr. Tom Albin, Chief Ergonomist of 3M Corporation, USA

Delhi Kalyan Samiti
Project

A HEALTH SURVEY TO DETERMINE THE ADVERSE HEALTH IMPACT OF POLLUTION IN DELHI

Report
1998

Prepared by

SEH
Society for Environment and Health
NEW DELHI

Second Fogarty Indo-US National Training Programme

On

Diesel Particles: Health Effects, Monitoring, and Regulation

Organized by

Center For Occupational and Environmental Health
Lok Nayak Hospital, New Delhi

In Collaboration with

C O E H University of California, Berkeley
USA

Partner

Ministry of Environment & Forests, Govt. of India

Workshop on

mproving Productivity through Health & safety in

Cold Storages

[Cold-Working Environment]
18th August, 2000

Venue
Claridges Hotel
New Delhi

Organisers

Centre for Occupational & Environmental Health
in Collaboration with
Department of Labour
Govt. of NCT Delhi

Second Edition

Textbook of Preventive and Social Medicine

Piyush Gupta
O. P. Ghai

THE INDIAN EXPRESS
DATED SEP-8-2004
PAGE NO-4

LNJP Hospital to host meet on exposure to asbestos

EXPRESS NEWS SERVICE
NEW DELHI, SEPTEMBER 7

THE Centre for Occupational and Environmental Health (COEH) is organising an international conference on 'Asbestos Exposure in India' on September 12 at the Lok Nayak Jaya Prakash Narayan Hospital.

Leading international experts like Barry Castleman from the US will participate in the conference, which will address issues relating to the use of asbestos, including resultant health hazards, and ways to phase it out. The World Health Organisation, the International Agency for Research in Cancer, the United States Environmental Protection Agency, the Department of Health and Human Services and Collegium Ramazzini have stated that all sorts of asbestos are responsible for mesothelioma and lung cancer.

Many countries have imposed restrictions on its use, or banned it entirely. In Europe, the use of asbestos or products containing asbestos will not be allowed after June 2005.

Over seventy per cent of the world's asbestos is used in Eastern Europe and Asia. Canadian asbestos manufacturers have tried to promote asbestos use in India. Interestingly, in Western Europe, Scandinavia, North America and Australia, the manufacture of asbestos peaked in the 1970s. Canada dominated the world trade with its annual export of about 3,00,000 tons.

COEH, the technical arm of the Delhi government, is part of the Maulana Azad Medical College. The Centre was created to deal with occupational and environmental health concerns.

ATIONAL CONFERENCE ON
S EXPOSURE IN INDIA"
12 SEPTEMBER 2004, NEW DELHI
SUGIO FURUYA
INGRID CHRISTENSEN
BARY CASTELMEN
AQUAFINA

INDIA"
H (COEH)
AQUAFINA

INTERNATIONAL CONFERENCE ON
"ASBESTOS EXPOSURE IN INDIA"
12 SEPTEMBER 2004, NEW DELHI
Organised by:
CENTRE FOR OCCUPATIONAL AND ENVIRONMENTAL HEALTH (COEH)
LOK NAYAK HOSPITAL, NEW DELHI
K. S. BAGHOTIA
VINOD SHAH
M. K. PANDHE
J. DUNNIGAN
S. P. V. C. RAO
GOPAL KRISHNA

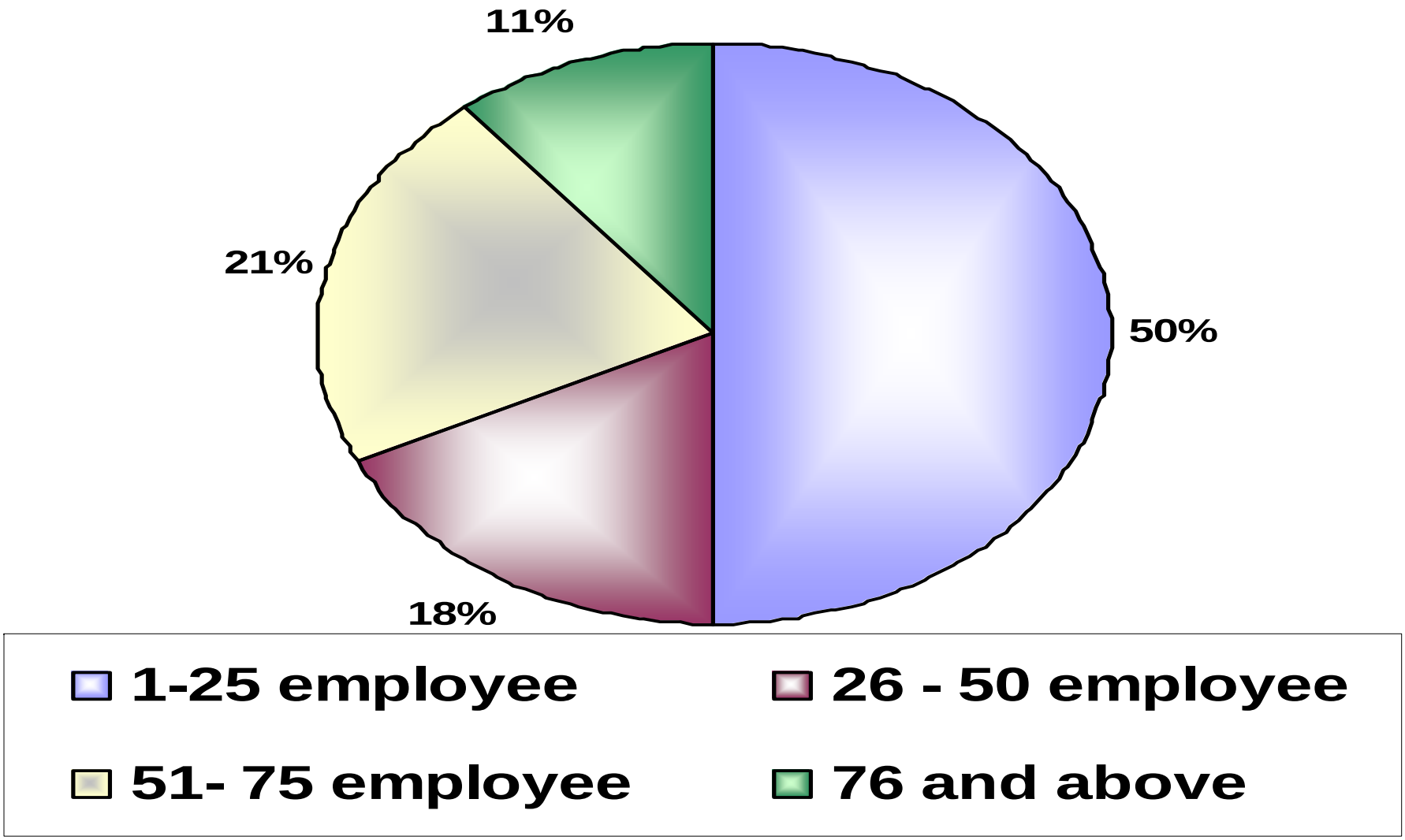
INTERNATIONAL CONFERENCE
ON
"HAZARDS OF ASBESTOS EXPOSURE IN INDIA"
Organised by
Indraprastha Vyavsayik Evam Paryavarneeya Swasthya Samiti/ COEH

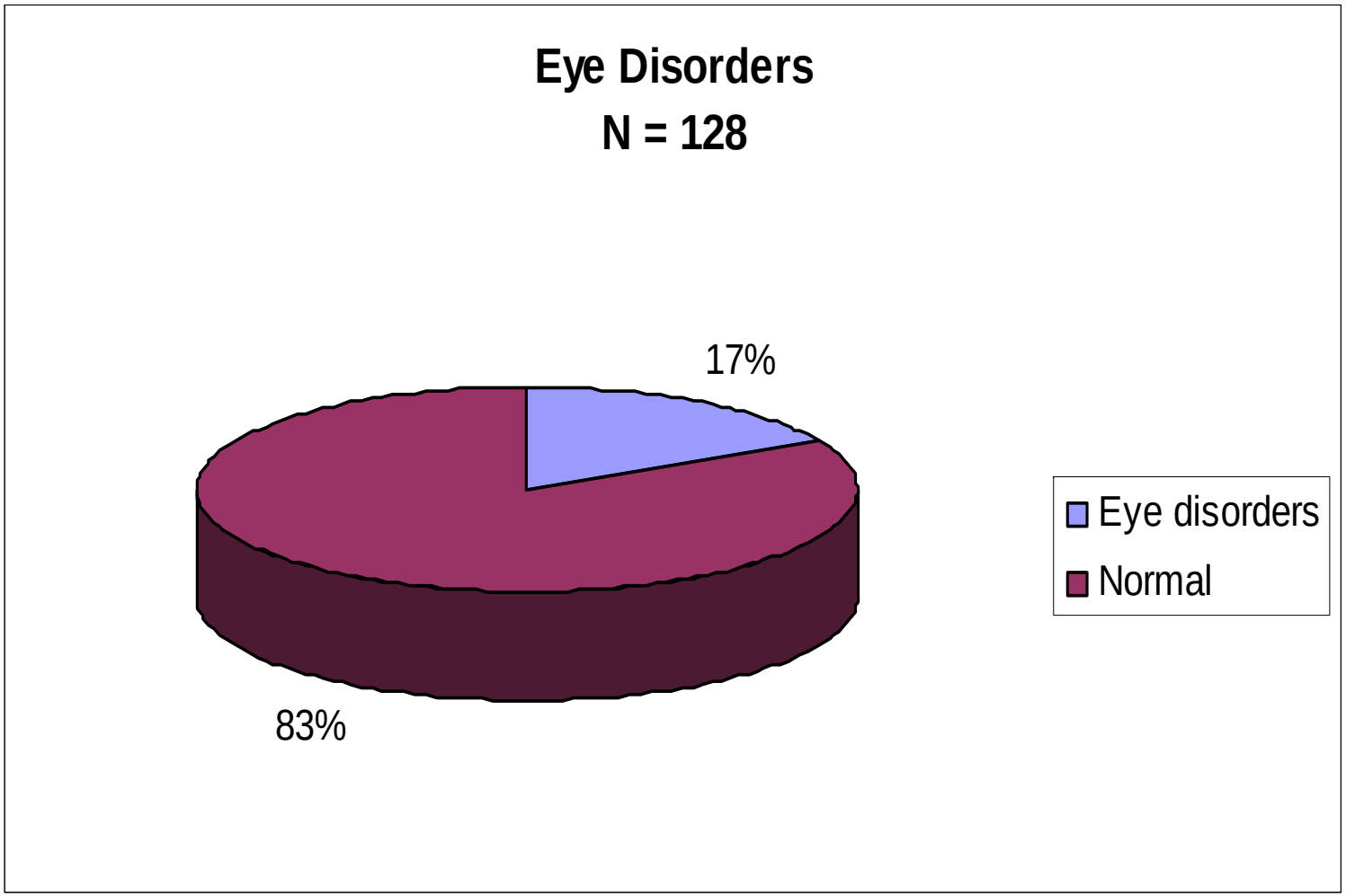
Bisleri
A.K. Agarwal

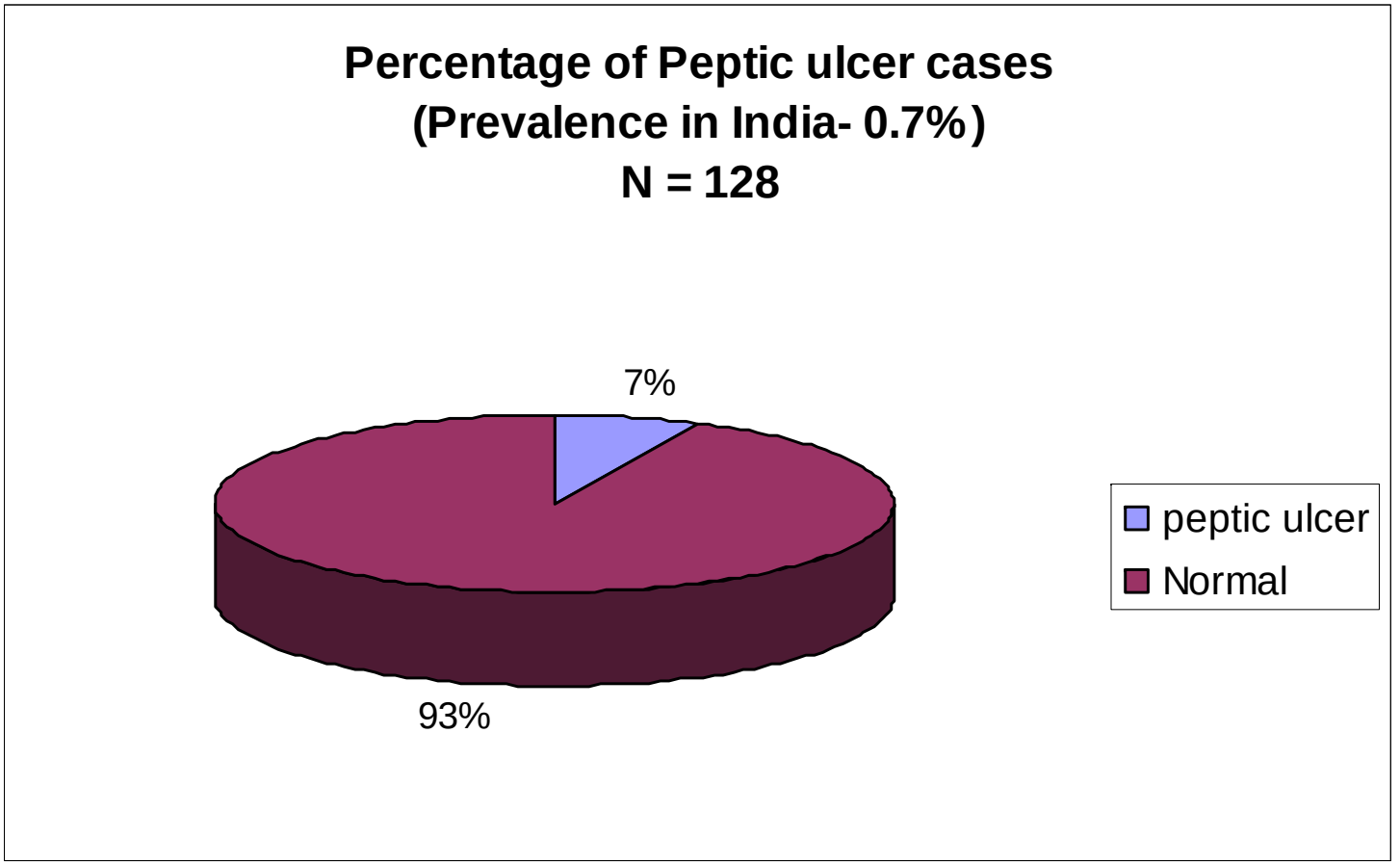
A.K. Agarwal

Employee Distribution

N = 128




Eye Disorders
N = 128
17%
83%
Eye disorders
Normal


Percentage of Peptic ulcer cases
(Prevalence in India- 0.7%)
N = 128
7%
93%
peptic ulcer
Normal

Happy Jharkhand
Healthy Jharkhand
WORLD BANK ASSISTED CAPACITY BUILDING PROJECT
FOR FOOD SAFETY & DRUG QUALITY
WORKSHOP ON: ENVIRONMENTAL HEALTH &SAFETY MANAGEMENT
RANCHI: 12th-13th MAY 2007
Venue: HOTEL GREEN ACRES, HINOO (AIRPORT ROAD), RANCHI
Organised by: Centre for Occupational & Environmental Health (IVPSS)
New Delhi - 110002
Catalysed & Supported by: FOOD & DRUG ADMINISTRATION, DEPTT. OF HEALTH & F.W.
GOVT. OF JHARKHAND
Sri. R.S. Jaipuriar
Additional Secretary
Smt.Nidhi Khare
Special Secretary
T.K. Joshi
Dr.N.N.Agrawal

WORLD BANK ASSISTED, CAPACITY BUILDING PROJECT
WORKSHOP ON
ENVIRONMENT HEALTH & SAFETY MANAGEMENT
IN
FOOD & DRUGS TESTING LABORATORIES OF INDIA
ORGANIZED BY
UNION MINISTRY OF HEALTH & FAMILY WELFARE
& IVPSS (COEH)

WORLD BANK ASSISTED, CAPACITY BUILDING PROJECT
WORKSHOP ON
ENVIRONMENT HEALTH & SAFETY MANAGEMENT
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& IVPSS (COEH)

WORLD BANK ASSISTED CAPACITY BUILDING PROJECT
WORKSHOP ON
ENVIRONMENT HEALTH & SAFE MANAGEMENT
IN
FOOD & DRUGS TESTING LABO IES OF INDIA
UNION MINISTRY OF HEALT WELFARE
& IVPSS

WORLD BANK ASSISTED CAPACITY BUILDING PROJE
WORKSHOP ON
ENVIRONMENT HEALTH & SAFETY MANAGEME
IN
FOOD UGS TESTING LABORATORIES OF (IND
ORGANIZED BY
MINISTRY OF HEALTH & FAMILY WELFA
& IVPSS (COEH)

cftri
Central Food Technological Research Institute
Mysore - 570 013
ENVIRONMENTAL POLICY
We at Central Food Technological Research Institute (CFTRI), Mysore are committed to the protection of environment by adopting pollution prevention measures, achieving continual improvement in environmental performance, complying with relevant environmental regulations and ensuring the necessary and appropriate operational practices in our day to day Research and Developmental endeavours with a clear and concerted 'Team CFTRI' approach.
Date: March 22, 2003
Place: Mysore
V. Prakash
Director
cftri
Central Food Technological Research Institute
Mysore - 570 013
QUALITY POLICY
We at Central Food Technological Research Institute (CFTRI), Mysore dedicate and commit ourselves to excel in Research & Development and Training in the areas of Food Science and Technology through quality aspects to be practiced and implemented at all levels.
We shall endeavour to develop quality technologies which are globally competitive and with a clear mandate of economic edge to ensure safe, healthy and quality foods to the society.
We shall achieve these goals through 'Team CFTRI' and continually improve by reaching out to enhance our quality knowledgebase.
Date: March 10, 2003
Place: Mysore
V. Prakash
Director
cftri
Central Food Technological Research Institute
MYSORE - 570 013
MISSION
To generate and apply scientific knowledge in the area of Food Science and Technology for maximal conservation and optimal utilisation of the Nation's food resources.
To add value and utility to agro resources through Research and Development and contribute to sustained development, food security and food safety.
To assist and promote the growth of food industry through innovative development of technology for value addition and state-of-art technical services.
Date : 15 August, 1998
Place : Mysore
V. Prakash
Director
cftri
Central Food Technological Research Institute
MYSORE - 570 013
VISION

Medical courses rejig soon: Bhanu

HT Correspondent
Ranchi, May 12

HEALTH MINISTER Bhanu Pratap Shahi on Saturday announced to include 'Health and Environment' in the curriculum of all three medical colleges in the State soon.

Inaugurating a workshop on 'Environment, Health and Safety Management' covered under the World Bank-assisted capacity building project he said concrete measures are needed to check the rampant denudation of forests. Cautioning against environmental pollution by big companies, he said recently a number of children were born blind in a Giridih village.

Special Secretary Health Nidhi Khare laid stress on giving importance to environment and limited exploitation of natural resources.

She said some major problems like Jharia fire were an outcome of unplanned use of resources. "Only 3 per cent of the villagers in the State have toilet facilities. This needs to be improved for a healthy environment," she said.

Dr TK Joshi from the World Bank (WB) said the Bank is running a Rs 350-cr project for environment. WHO had identified four major challenges for the country, with water on the top. "Ninety per cent of the people in the country are deprived of safe drinking water. Merely ensuring potable water to far-flung rural areas would reduce the occurrence of diseases by 50 per cent," he said. Stressing the need for creating awareness among the people he said education alone helped Cuba score above USA on the health index. Dr Joshi said the country needs 8,000 doctors.

Speaking on the rampant top-soil erosion, environmental scientist Dr Suresh Prasad Singh said, "The State has 30,000 million cubic metre water. But only 10,000 million cubic metre can be used. Nearly 78 per cent of the water goes to river due to improper management," he said. State Public Analyst and former Joint Food Controller, Bihar, JK Singh said the workshop organised by the Centre for Occupational & Environmental Health and supported by Food and Drug Administration Department would benefit the State.

Additional Secretary, Health, RS Jaipuriar, Director, RIMS, Dr NN Aggarwal, Director, RINPAS, Dr PK Chakraborty, State Food Controller Dr Pradeep Kumar Singh and IMA State Secretary Dr RC Jha also addressed the workshop. State Drug Controller MM Prasad proposed the vote of thanks. Nearly, 40 delegates attended the meeting, including Food Controller and Drug Controller from Bihar.

namitastewari@yahoo.com

HIGHLIGHTS

- Shahi announced to include 'Health and Environment'in the curriculum of all three medical colleges in the State soon.
- Special Secretary Health Nidhi Khare laid stress on giving importance to environment and limited exploitation of natural resources.
- The State has 30,000 million cubic metre water. But only 10,000 million cubic metre can be used.Nearly 78 per cent of the water goes to river due to improper management

WORKSHOP ON
OCCUPATIONAL HELTH NURSING
ORGANIZED BY
CENTRE FOR OCCUPATIONAL
AND
ENVIRONMENTAL HEALTH (MAMC)
22nd-24th AUGUST 2007
EXIT

Preventive Methods
Taking regular breaks
Alternative work tasks
Regular stretching
Comfort equipment: footrest, wrist rest, document holder
Keeping mouse and keyboard at the same level
To hold the mouse lightly and click gently

HINDUSTAN Times - Page No 1

~~Thursday~~ Friday

15/June/2007

GOVT DATA ON AIR POLLUTION

Summer '07: Hot days and unhealthy air

Avishek G. Dastidar
New Delhi, June 14

AS IF the intense heat this year was not enough, new data from the Central Pollution Control Board now suggests that Delhi's air now poses risks greater than ever before to your lungs.

An analysis of the air-pollution data by the Centre for Science and Environment (CSE) shows that the city's daytime air this summer has been very high on ground-level ozone. This has resulted from a reaction between pollutants like nitrogen oxide (NOx) and hydrocarbons triggered by very strong sunlight.

Anumita Roychowdhury, associate director, CSE, said: "Ozone levels are expected to be higher in summer. But uncommonly high levels have been recorded this year."

The analysis shows that ground-level ozone, known as "bad ozone", was almost twice the permissible limit set by the WHO, which is 100-mg/cubic metre for an eight-hourly average. The ozone layer in the atmosphere, however, is good — it protects us from the sun's ultraviolet rays.

In Siri Fort, the maximum level touched a dangerous 184.4 mg/cubic metre on June 10, while Bawana recorded 197.7 mg/cubic metre. The last time bad ozone crossed the WHO limit was in 2001, at 140-mg/per cubic metre.

Dr T.K. Joshi, head, Centre for Environment and Occupational Health, said: "People with cardiovascular ailments and asthma are at grave risk." The Environmental Protection Agency of the US said in a recent report titled *Ozone-Good Up High Bad Nearby*, that "ground-level ozone in the US is responsible for an estimated $500 million in reduced crop production... affecting the landscape of cities"

avishek.dastidar@hindustantimes.com

"HINDUSTAN TIMES"
WEDNESDAY, JUNE 13, 2007
PAGE NO.= 7

Govt hospitals plan to do away with mercury in instruments

Avishek G. Dastidar
New Delhi, June 12

SOON, ALL hospitals under the Delhi government will stop using instruments that contain the poisonous heavy metal—mercury.

Alarmed by growing, global concern over the ill effects of mercury in healthcare and environment sectors, the Health department has decided that a long-term and short-term policy be framed to enable a complete phase-out of this toxic metal.

A committee, comprising of several medical experts, has been set up under the Dean of Maulana Azad Medical College (MAMC) to look into all the aspects and submit recommendations to the government within a month.

"We will be holding meetings and practical recommendations will emerge after thorough brainstorming," said Dr Arun Aggarwal, Dean, MAMC, while talking to *Hindustan Times*.

The total phase-out will ensure that all medical facilities of the Delhi government are environmentally safer, said Delhi Health Secretary DS Negi. "Apart from total replacement of mercury, we must also focus on the proper ways of disposing mercury currently in use," added Negi.

Dr TK Joshi, Member Secretary of the committee and head of MAMC's Centre for Environment and Occupational Health, said the committee would look into "all aspects of mercury use and replacement" while preparing the recommendations. "Even minute details like mercury use in each department like dental, pediatrics etc will be thoroughly looked into," he said.

> **"Mercury evaporates under room temperature and pollutes the air. Exposure to mercury severely affects the nervous system and it takes a long time for the body to get rid of this toxin."**
> Prashant Pastore,
> Toxics Links

HT FOCUS

Stopping the use of mercury however is easier said than done. Digital versions of thermometers and sphygmomanometers (blood-pressure testing instruments) are several times costlier than their conventional, mercury counterparts.

"We are aware of that, but health and environmental safety is more important than financial considerations. The committee has been asked to look into replacement options as well," Negi said.

A few months ago, NGO Toxics Link had carried out a study which showed that two reputed hospitals in the Capital were chocked with mercury due to every-day breakage of instruments carrying the metal. The study had showed that around 70 thermometers broke at each of the more-than-300-bedded hospitals every month.

"Mercury evaporates under room temperature and pollutes the air. Exposure to mercury severely affects the nervous system and it takes a very long time for the body to get rid of this toxin," said Prashant Pastore of Toxics Link.

Meanwhile, St Stephen's hospital, which has been trying to stop the use mercury by going for digital instruments, is facing a peculiar problem: Many digital thermometers are getting stolen. "Our hospital has around 250 such thermometers. Being around 10 times costlier than mercury-based thermometers, many of them are getting lifted," said Alfons Madoc, spokeswoman of the hospital. "But still we are in the process of replacing all mercury-based instruments with digital ones," she said.

avishek.dastidar@hindustantimes.com

HINDUSTAN TIMES
15 JULY 2007
Pg. No. 3

Govt puts its hospitals on mercury-free drip

Avishek G. Dastidar
New Delhi, July 14

IT MAY take just a year and around Rs 12 lakh for the Delhi government to rid its 15 hospitals of common instruments that are based on mercury, the harmful, heavy metal. The Health Department has accelerated the run-up to the mercury phase-out programme, to be started soon at all its healthcare facilities.

These projections were presented on Saturday at a workshop where experts of the government panel, formed to oversee the ambitious programme, and representatives of hospitals discussed how best the toxic metal could be done away with.

Estimates prepared by the Centre for Occupational and Environmental Health (COEH) of Maulana Azad Medical College, which is part of the programme, shows 15 Delhi government hospitals needed 2610 thermometers and 293 blood-pressure instruments last year. "A digital thermometer costs Rs 200 and a digital BP instrument comes for Rs 2,500. If all existing, mercury-based instruments are replaced, it would take around Rs 11,18020, which is nothing if it means a healthier environment," said Dr T.K. Joshi, head of COEH and member secretary of the government panel.

It may not take long before all government hospitals establish the use of mercury-free instruments. Delhi Health Secretary D.S. Negi told the *Hindustan Times* that efforts were on to consider a deadline of one year. "The Maulana Azad Dental College, for instance, will try to get rid of mercury by one year. The recommendations of today's workshop will help draw a roadmap for us," he said.

As recommendations, it was decided each hospital would prepare an inventory of how mercury is used in its facilities. Dental care is the most extensive user of the metal through amalgam fillings.

"So, not just thermometers and sphygmomanometers, a holistic approach will be needed in chalking out the plan," said Prashant Pastore of NGO Toxics Link during a presentation.

"Each hospital discharges around 3 kilograms of mercury in the environment every year in Delhi. A thermometer contains enough mercury to contaminate a 20-acre lake so much that its fishes become unfit for consumption. So the problem is enormous," he said.

Experiences of St. Stephen's Hospital and Delhi government's Chacha Nehru Bal Chikitsalaya, which have been trying for mercury phase-out, were also discussed.

The complete set of recommendations will be handed over to the health department on Monday.

avishek.dastidar@hindustantimes.com

GREEN HOSPITALS

Medical uses of mercury in hospitals

- In thermometers
- Sphygmomanometers (blood pressure monitors)
- Esophageal dilators (also called bougie tubes)
- Cantor tubes and Miller Abbott tubes (used to clear intestinal obstructions)
- Feeding tubes
- Dental amalgam
- Laboratory chemicals (fixatives, stains, reagents, preservatives)
- Medical batteries

Non-medical use

- Cleaning solutions with caustic soda or chlorine contaminated with mercury during production process
- Batteries
- Fluorescent lamps and high-intensity lamps
- Non-electronic thermostats
- Pressure gauges
- Some electrical switches used for lights and appliances

A DIGITAL THERMOMETER COSTS RS 200 AND A DIGITAL BP INSTRUMENT COMES FOR RS 2,500. IT WILL TAKE ONLY RS 12 LAKH TO REPLACE ALL MERCURY-BASED INSTRUMENTS

— Dr T.K. Joshi, head of Centre for Occupational and Environmental Health

Facing Challenges

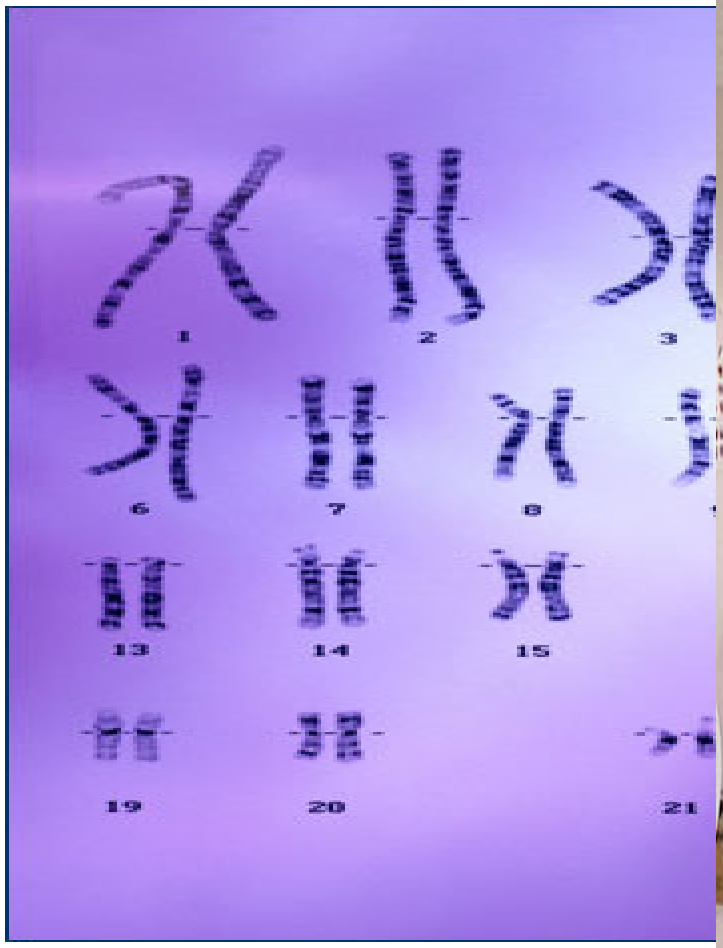
- MEKP associated explosions – 20 deaths in less than 2 weeks in 1996 in New Delhi

MEKP

- May explode if heated,
- Reacts violently with combustibles and organic material,
- Incompatible with flammables,
- Tumorigen,
- Systemic poison,
- Very destructive of mucous membranes,
- Severe irritant and Lachrymator.

1996

- A case of asthma due to air fresheners



- Case of professor studying chromosomes,

Occupational / Environmental Illness - 1995

- This 55 years old lady experienced fatigue, tiredness at each day end, periodic chest infections, anemia, chapping of skin, and vitiligo since 15 years, while making blood films for studying chromosomes,
- Had Subtotal thyroidectomy in 1983
- Was on Hormone replacement,
- Two post graduate female medical students also had similar complaints.

- Hb- 11.7 gm/dl,
- Platelets-148,000/mm^3
- Lymphoblastoid transformation of lymphocytes,
- Low expression of Complement C_3 fraction,
- Cause?

Occupational Illness - 1996

- On a July evening 300 workers, mostly women were taken ill suddenly allegedly following a gas leak.
- By next morning number rose to 600 with nearby hospitals flooded with victims complaining of nausea, shortness of breath, headache, dizziness, a racing heart, a stomachache or diarrhea,
- Diagnosis of toxic gas exposure, water pollution, building related asthma, obscure viral infection, and suffocation were made by the physicians.

- I was asked to investigate and submit a report within 6 hrs and plans were on to move nearly 150,000 inhabitants from this highly congested area;

- In next two hours I established diagnosis of ‘Mass psychogenic illness’, seconded by the head of psychiatry:
- No gas use,
- Predominantly female victims of low socio economic status and lowly literate,
- Dysosmia, cacosmia, and phantosmia,
- A Hostile and unkind management with an archaic work organization created extreme anxiety by the threat to close down the factory.

WHO Funded Study

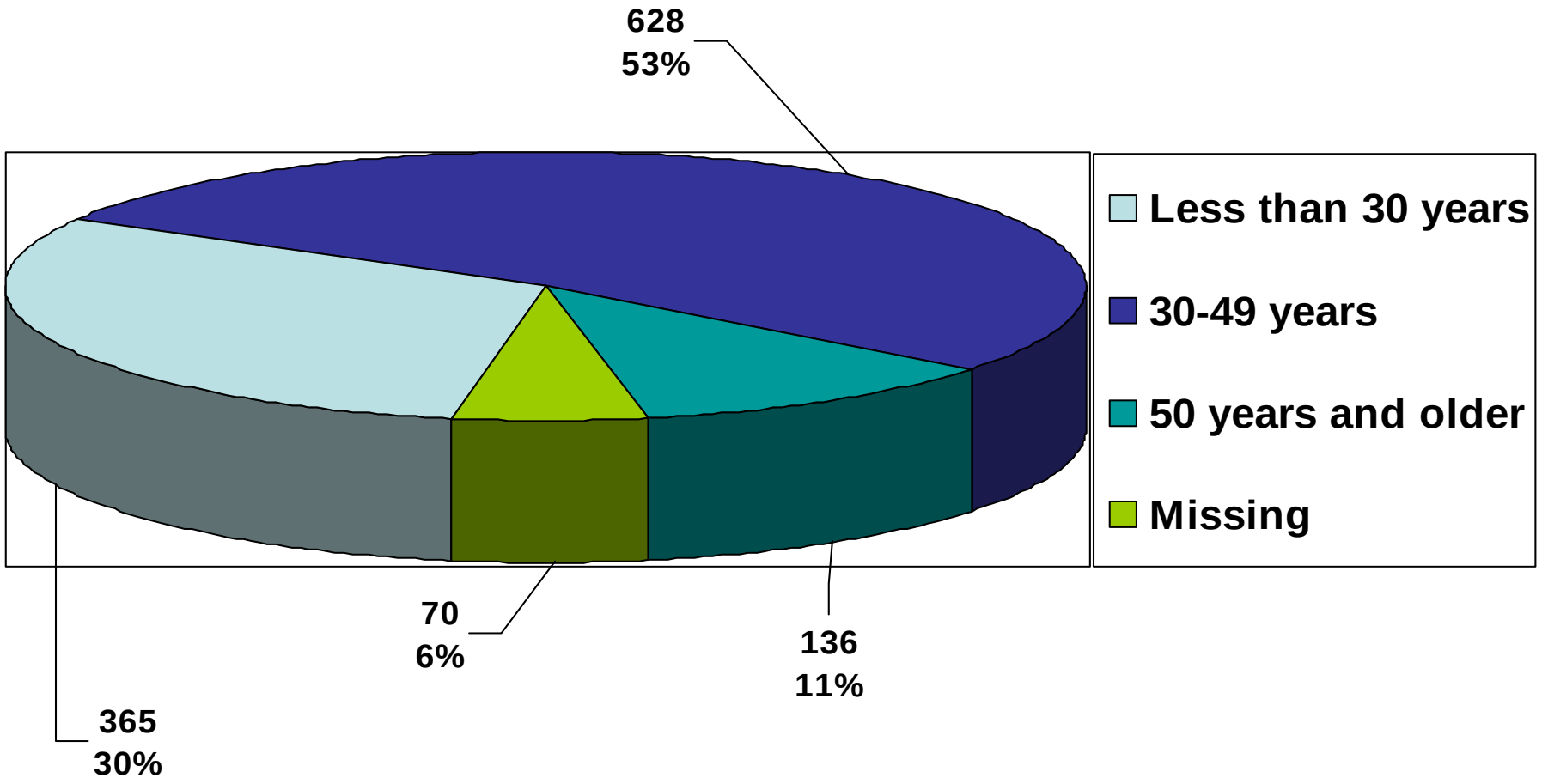
- The unhealthy worker effect.
- Workers suffered more tuberculosis, 24/1000,
- Had higher prevalence of anemia (42 per cent) compared tocommunity

- Cross sectional survey of Healthcare workers in New Delhi following sensitization

Occupational Category and Health Risks

Occupational Category or Description	Exposure to Risk Factors
Maintenance Workers	Solvents, asbestos, and electrical hazards
Boiler Room Operators	High levels of noise and heat
Housekeepers	Detergents and disinfectants, improperly discarded needles and sharp objects
Food Service Workers	Sharp-edged equipments, hot surfaces, slippery floors, microwave ovens
Nurses and Physicians	Toxic substances, radiation exposure, shift work
Radiology Technicians	X-rays and radioactive isotopes, chemical hazards
Operating Room Personnel	Waste anesthetic gases, sharp instruments

Socio-demographic profile (Age)

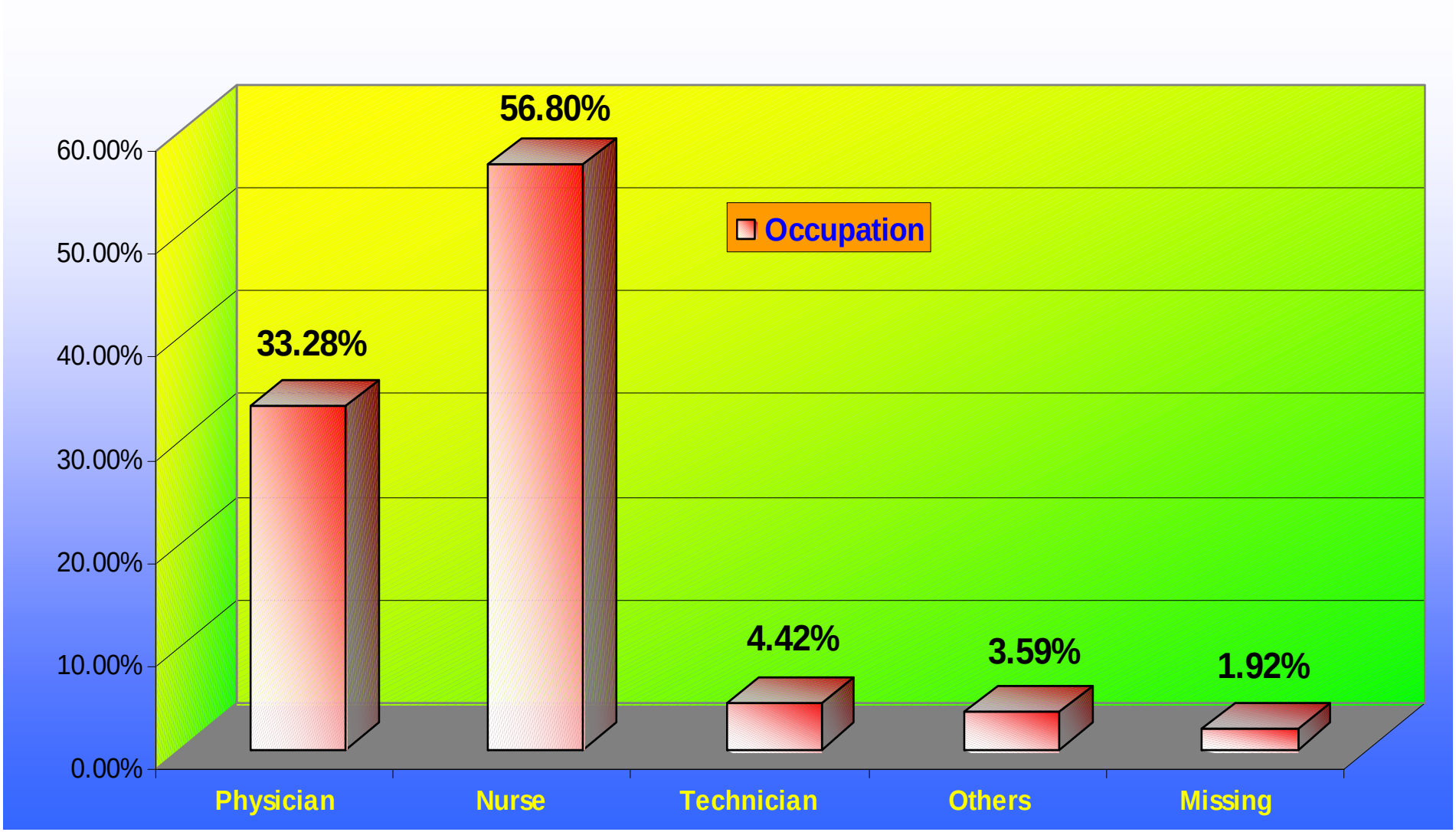


Total n = 1199

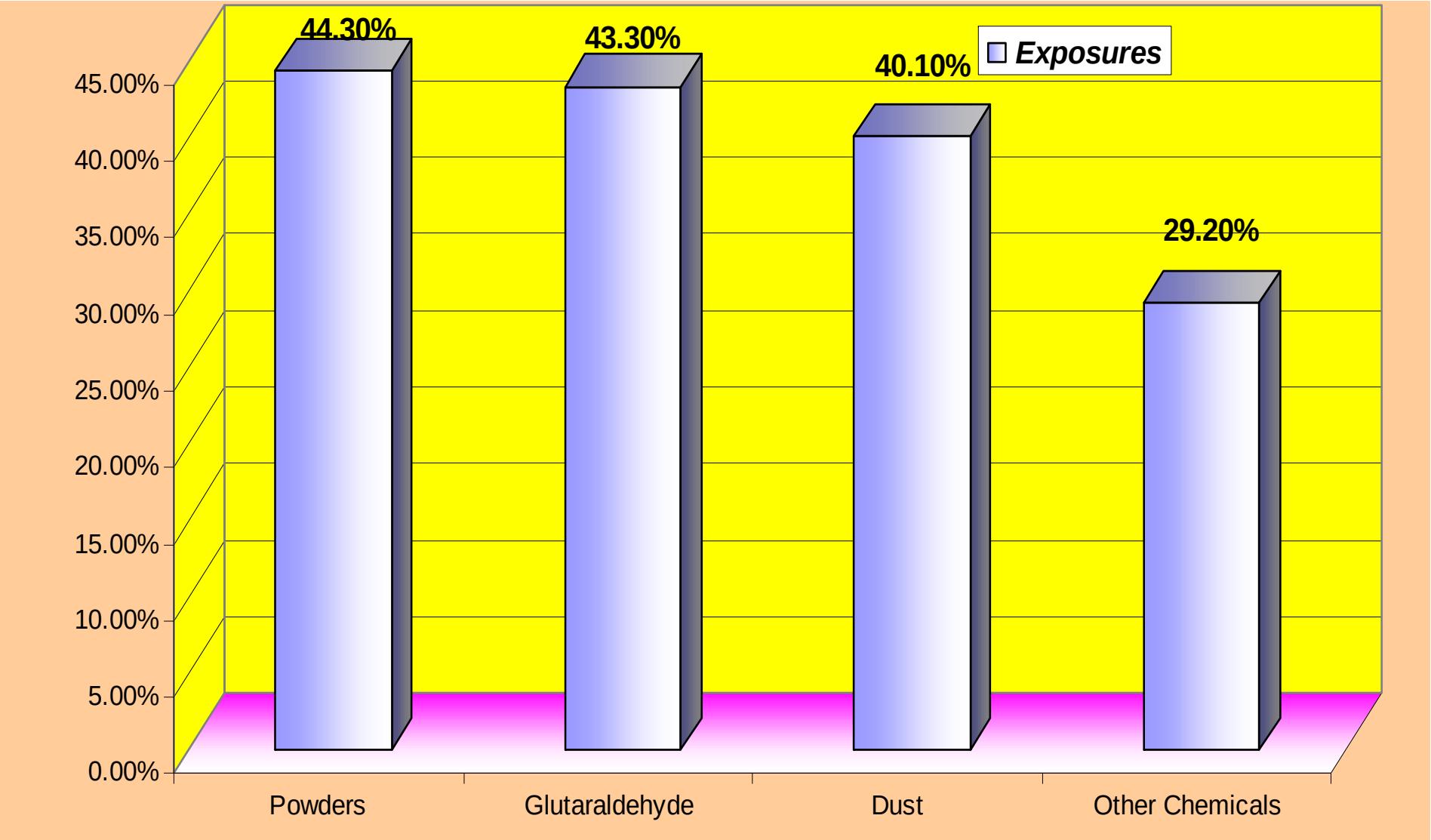
Socio-demographic profiles - Gender

Category (Age in Groups)	Frequency	Percent
Male	245	20.43
Female	929	77.48
Missing	25	2.09
Total	1199	100

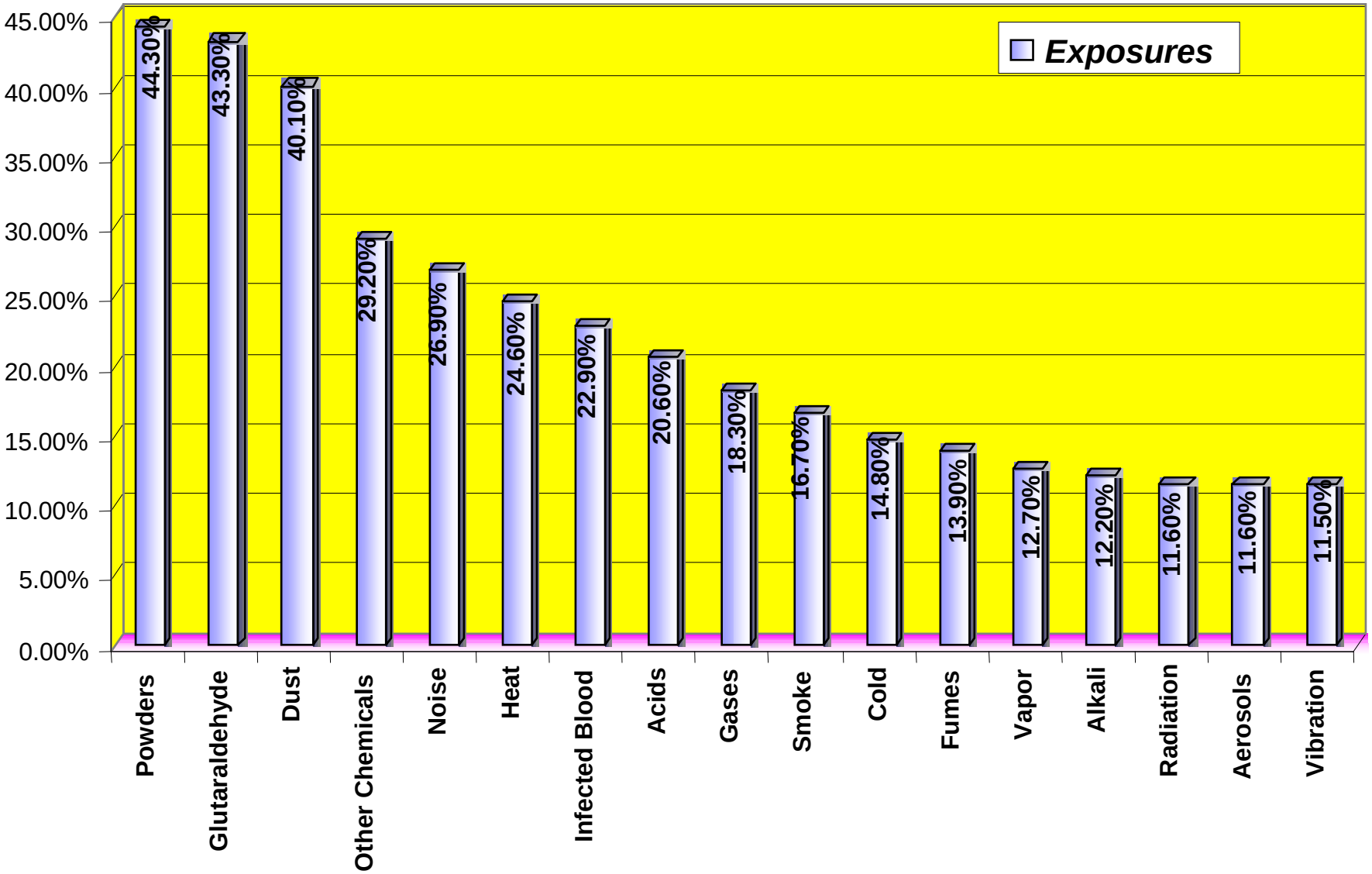
Socio-demographic profile -Occupation



Exposures Experienced



Exposure Profiles



Smoking Habits

Category	Frequency	Percent
Current	15	1.25
Former	32	2.67
Never	1054	87.91
Missing	98	8.17

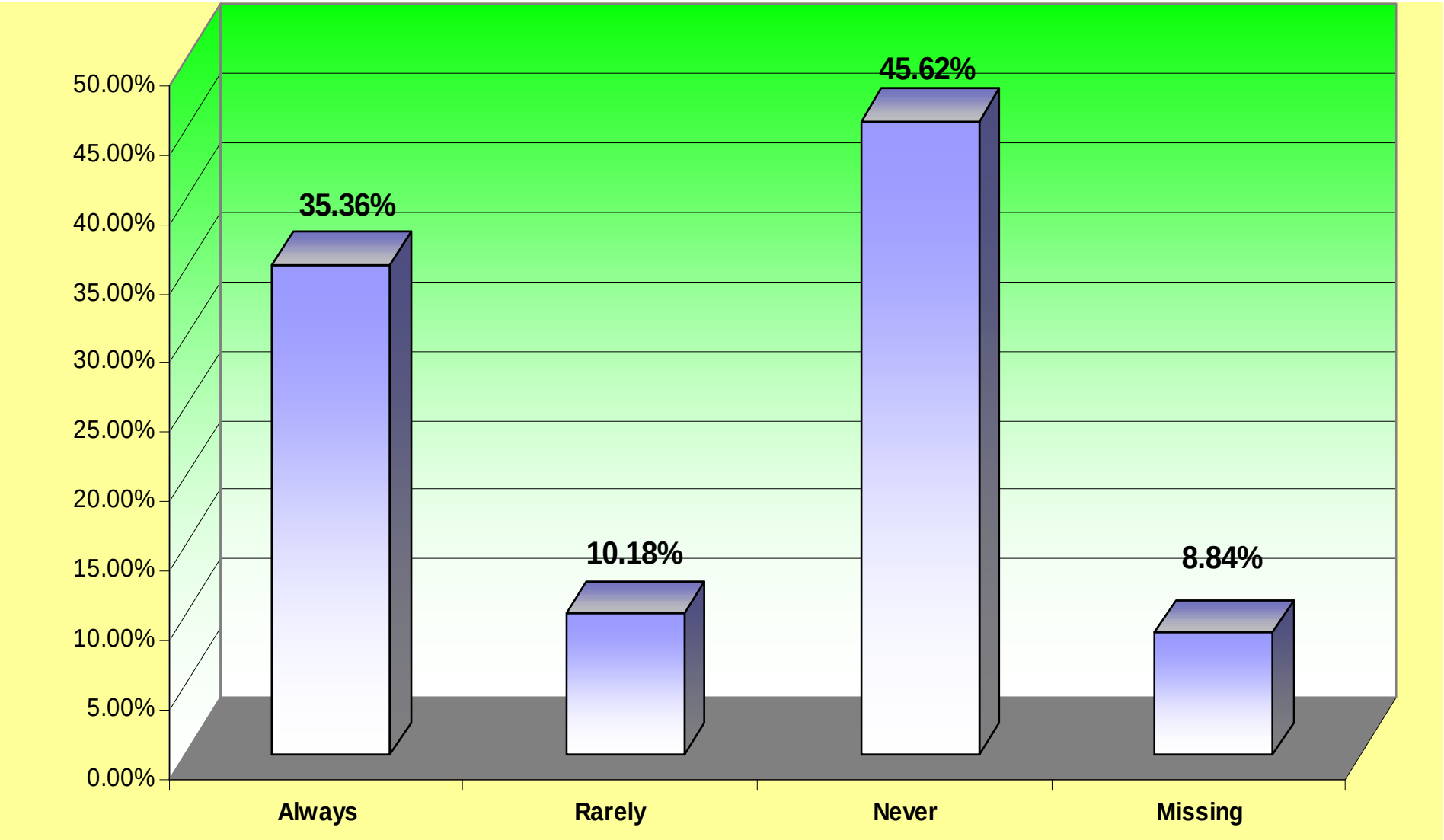
Tobacco Chewing

Category	Frequency	Percent
Current	4	0.33
Former	10	0.83
Never	1000	83.40
Missing	185	15.43

Alcohol Use

Category	Frequency	Percent
Current	65	5.42
Former	23	1.92
Never	990	82.57
Missing	121	10.09

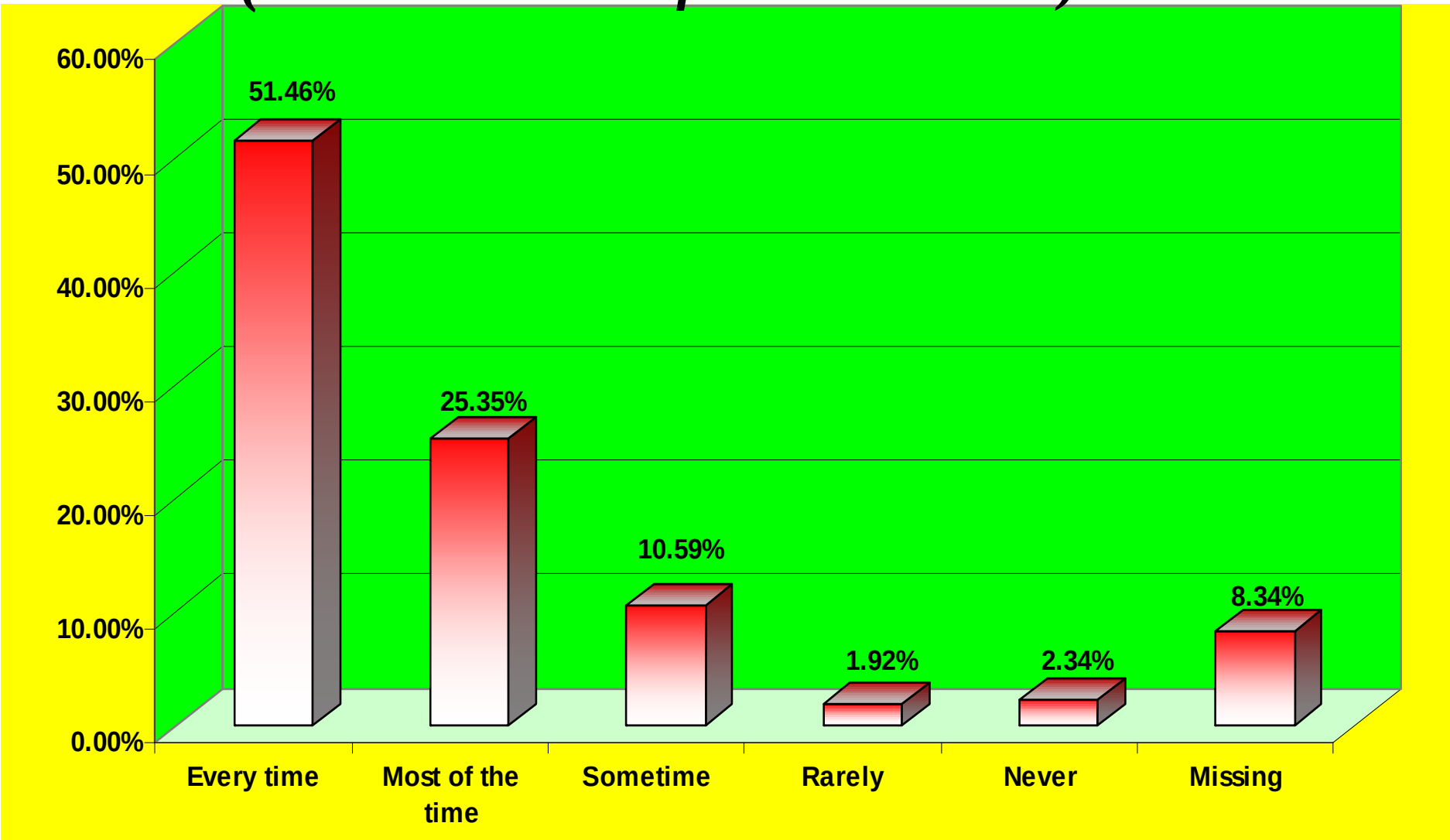
Recapping of needles



Mouth Pipetting

Category	Frequency	Percent
Yes	60	5.00
No	1002	83.57
Missing	137	11.43

(Glove Use For Infected Materials)



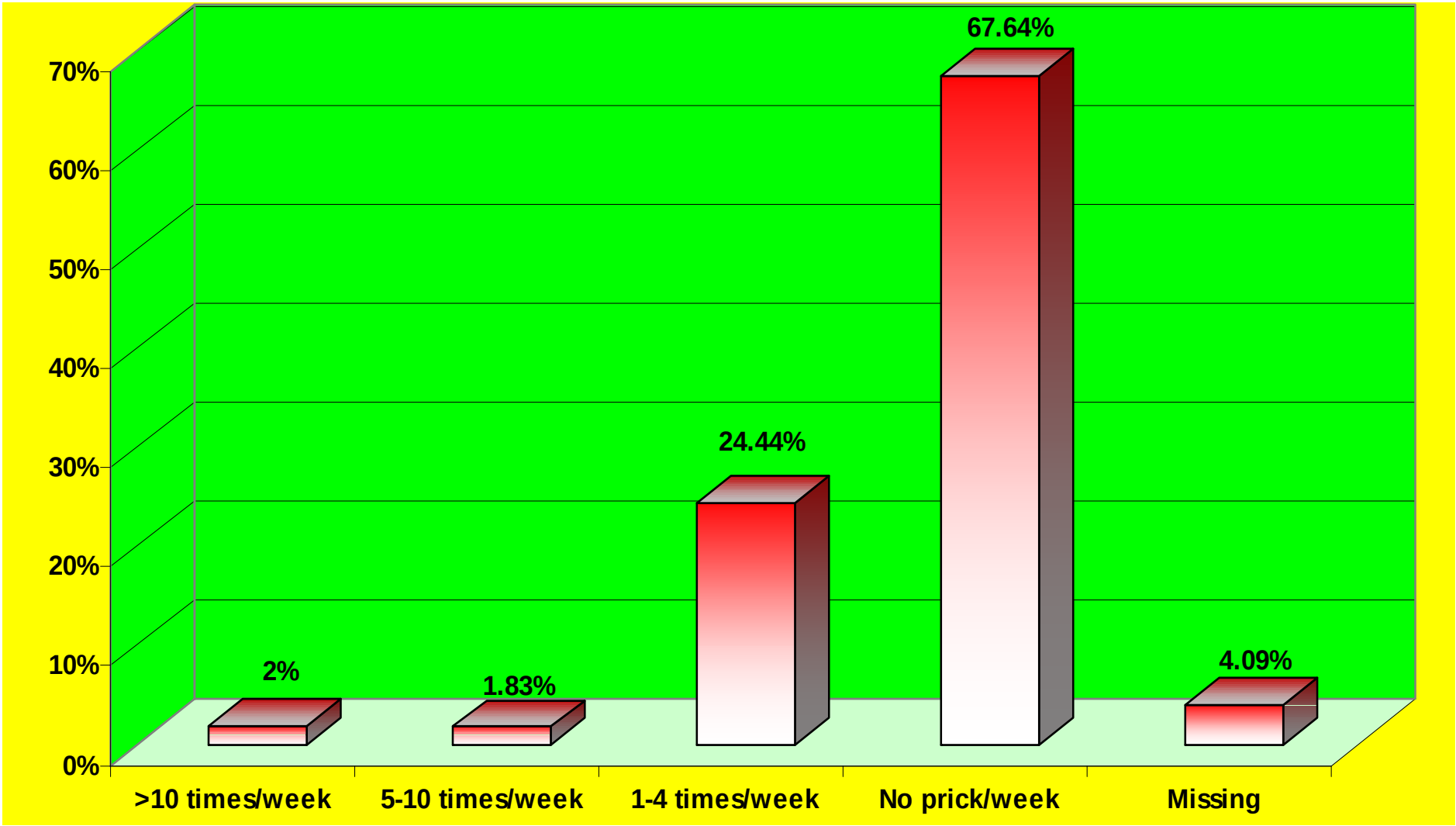
Length of Duties

Category	Frequency	Percent
Eight Hours or Less	84	7.01
9-15 Hours	756	63.05
16 Hours or More	359	29.94
Total	1199	100

Physical violence at work

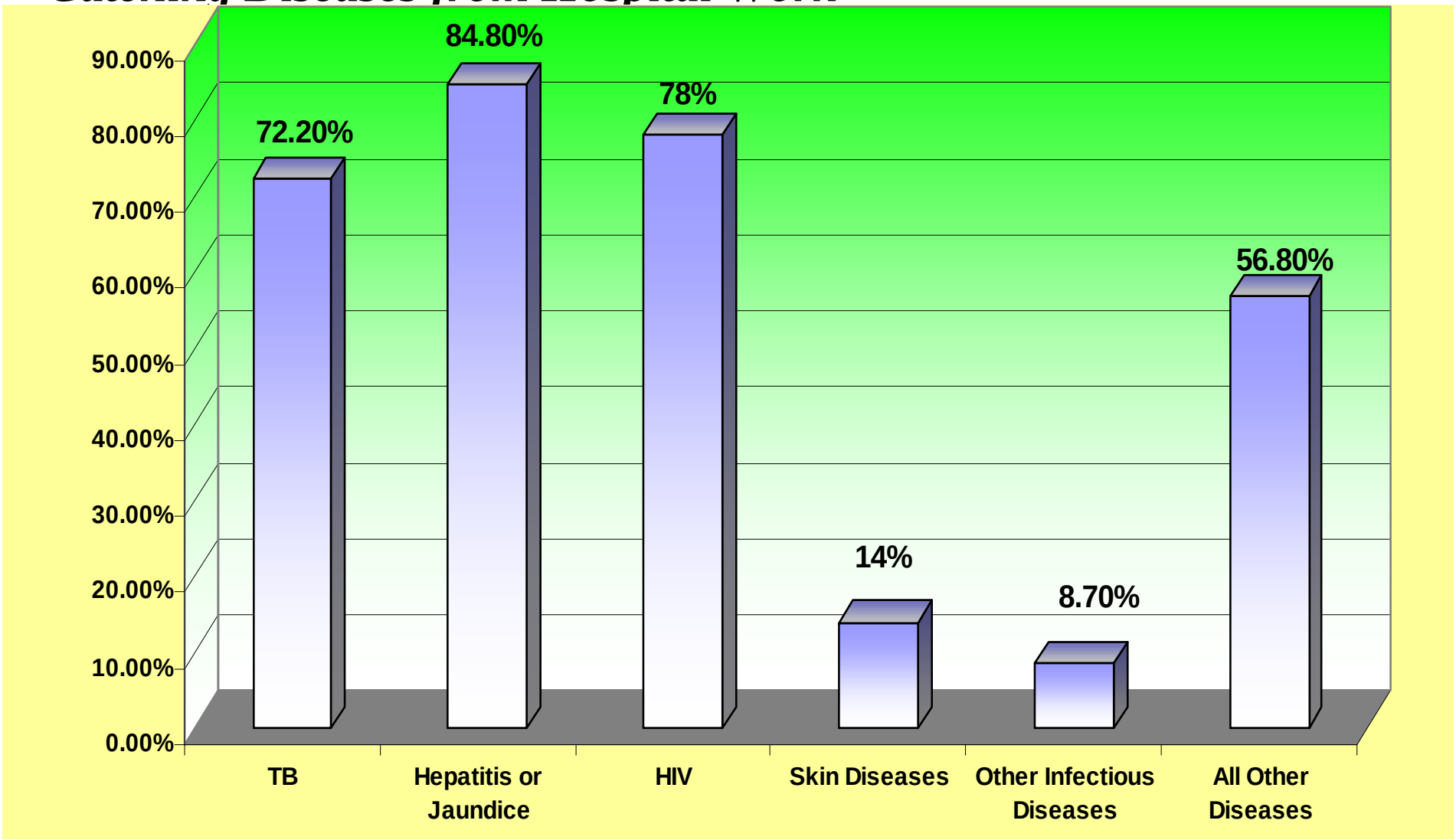
Category	Frequency	Percent
Yes	**106**	**8.84**
No	**973**	**81.15**
Missing	**120**	**10.01**
Total	**1199**	**100**

(Frequency of reported needle prick)



Opinion Variables

Catching Diseases from Hospital Work



Comments: Facilities in Workplace

Category	Frequency	Percentage
OHS for Every Hospital	1043	87
Sterilization Satisfactory	790	65.9
Adequate Water Supply	861	71.8
Soap Always Available	1051	87.7
Aprons Always Available in OR	897	74.8
Slippers Always Available	825	68.8
Masks Always Available in OR	871	72.6
Eye Protector Always Available	185	15.4

work is boring

Category	Frequency	Percentage
Very much	25	2.1
Much	59	4.9
Can't say	51	4.3
Not much	289	24.1
Not at all	706	58.9

Work is tiring

Category	Frequency	Percentage
Very much	109	9.1
Much	225	18.8
Can't say	36	3.0
Not much	478	39.9
Not at all	263	21.9

No autonomy at work

Category	Frequency	Percentage
None at all	45	3.8
Not much	128	10.7
Can't say	199	16.6
Some	300	25.0
Full Autonomy	185	15.4

No Opportunity of Skill Use At Work

Category	Frequency	Percentage
Completely Agree	55	4.6
Agree	203	16.9
Neither Agree Nor Disagree	54	4.5
Disagree	429	35.8
Completely Disagree	305	25.4

Nature of relationship with colleagues

Category	Frequency	Percentage
Very Bad	7	0.6
Bad	1	0.1
Neutral	22	1.8
Good	605	50.5
Very good	493	41.1

Outcome	Frequency	Percentage
Common Cold (Rhinitis)	378	31.5
Low Back Pain	359	29.9
Cervical Spondylosis	156	13
Arthritic Diseases	152	12.7

Roy D, 2001

- Prevalence in USof latex allergy estimated to be between 10 – 17%, our prevalence estimate for this population around 12%, similar

Noshioka, 1998

- Brazilian Town, Survey of physicians showed 65-80% prevalence of needle stick injury (at least once in the last 12 months)

- Our prevalence (at least once in the last 12 months) was 24.4%, considerably lower

Paul, 2000

- Dental Health Care Workers at Army Hospital in Riyadh, Saudi Arabia; prevalence of needle stick injuries: 58%
- Higher than in our sample, 24.4%

Scoular, 2000- Survey of the opinion of healthcare workers in Scotland

- The perceived susceptibility to blood borne infections in Scotland was 34%,
- In our survey, we found that between 78 and 85%, considerably higher

Lum, 1997- New Zealand

- Survey estimated incidence of needle stick injury among general practitioners, 22 per 100 workers in 6 month time period.
- Similar to prevalence estimate of 24.4% in the present study.

Conclusions

- India is rapidly industrializing and attaining prosperity despite widespread poverty,
- Identification of Occupational illness and reporting is still unsatisfactory,
- Following training health care workers adopted safe work practices,
- Academic occupational medicine is now alluring to medical graduates

Smedley, 1995

- System wide prevalence of needle stick injury among health care workers in Oxford and Wessex, UK,prevalence of needle stick injury vared from 9 to 44%
- Similar to prevalence estimates in the present study but range is wide.

GROWTH DESPITE CYNICISM

"India is the cradle of the human race, the birthplace of human speech, the mother of history, the grandmother of legend, and the great grandmother of tradition. Our most valuable and most instructive materials in the history of man are treasured up in India".

Mark Twain

"Despite this; the skepticism of most Indians, who have inherited from the British a talent for cultivated cynicism, is most surprising"

Chris Wood, CLSA

Growth enablers	Growth solidifiers & accelerators	9 -11 % future growth a reality	Growth and Indian stock markets

Thank You