A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE AND ATTITUDE OF SANITARY WORKERS REGARDING PREVENTION OF OCCUPATIONAL HEALTH HAZARDS IN SELECTED AREAS AT MADURAI.

A DISSERTATION SUBMITTED TO
THE TAMILNADU DR. M.G.R.MEDICAL UNIVERSITY, CHENNAI.
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING

APRIL - 2012
ACKNOWLEDGEMENT

“I would maintain that thanks are the highest form of thought, and that gratitude is doubled by wonder”   -Gilbert Keith Chesterton

Gratitude is a memory of the heart, first of all I thank Almighty god for his abundant blessings and making me to complete the study successfully.

I owe my heartfelt gratitude and sincere thanks to Prof. Dr.(Mrs).C.Jothi Sophia M.sc (N)., P.hD., principal and Prof. Merlin Jeyapaul M.Sc(N)., Ph.D., Vice principal, C.S.I.Jeyaraj Annapackiam college of nursing for laying the strong foundation on my research by their excellent guidance, encouragement and support which have been valuable for the successful completion of this task.

It ‘s my pleasure and previlage to express my deep sense of thanks and gratitude to my Clinical guide Mr. John Sam Arun Prabu M.Sc(N)., RN.RPN, Ph.D., for his constant motivation, guidance, inspiring discussion, providing necessary facilities, creative suggestions, blessings, that enabled me to complete the study.

I am deeply thankful to my M.sc(N) co-ordinators Mrs.Jeya Grubb M.Sc(N) Ph.D and Mrs.Shanthi M.Sc(N)., for their guidance and valuable suggestions throughout the study.

I submit my deep sense of special thanks to my medical guide Dr. Munawar khan M.B.B.S., B.S.SC., F.C.I.P., F.I.S.C.D., M.I.P.H.A., former professor of community medicine, for his valuable suggestions, guidance for complete the study successfully.

I record my thanks to the panel judges in the dissertation committee for their valuable suggestions throughout the study.
I extend my sincere thanks to Deputy Director of health services Madurai. Mr. Sivakumar Block medical officer Thirupparankundram PHC. Mr. Saravanan, health inspector of Madurai corporation north zone, Mr. Pradeep, Dhan foundation. The sanitary workers for extending helpful support throughout this study.

I am extremely extend my thankful to the experts namely Mrs. Helen Raja manickam M.Sc (N), Professor Matha college of Nursing, Mana Madurai. Mrs. Diana M.Sc(N) Vice Principal C.S.I. college of Nursing, Neyyoor, Mrs. Vedha Selvi M.Sc(N), Lecturer, C.S.I. JACON Madurai, Mr. Edwin Rajkumar, Professor, Department of sociology, for their suggestions and for ensuring the validity of the tool.

I wish to thank the Librarians of The Tamil Nadu Dr. M.G.R. Medical university, Chennai, CMC, Vellore, and Mrs. Angelin Manova librarian of C.S.I. Jeyaraj Annapackiam College of Madurai, for allowing me to utilize the library facilities.

I express my sincere gratitude to all faculty members of C.S.I. Jeyaraj Annapackiam college of nursing, community health nursing department for their timely assistance and encouragement.

I have no words to express my gratitude and thanks to my parents Mr. V. Poochi Bagavathy and Mrs. P. Paechi Ammal for their constant support, blessings and fervent prayers during the study period. I am greatly indebted to my sisters Mrs. Buvaneswari and Mrs. Rajeswari and my brother Mr. P. Jaya kumar for their constant support and encouragement.
ABSTRACT

A study to evaluate the effectiveness of planned teaching program on knowledge and attitude on prevention of occupational health hazards among sanitary workers in selected areas at Madurai was done by Ms.P.Ranjani Devi as a Partial fulfillment of the requirement for the degree of Master of Science in Nursing to The Tamil Nadu Dr.M.G.R. Medical University, Chennai during the year 2010-2012.

The objectives of the study were;

1. To assess the prevalence of occupational diseases among sanitary workers in selected areas at Madurai.
2. To assess the existing knowledge and attitude of sanitation workers regarding occupational health hazards.
3. To evaluate the effectiveness of planned teaching program on knowledge and attitude of sanitation workers regarding prevention of occupational health hazards.
4. To find out the relationship between post test knowledge and attitude of sanitary workers on prevention of occupational health hazards.
5. To determine the association between post test level knowledge and attitude with selected demographic variables.

The research hypothesis of this study were formulated to test the association between knowledge and attitude of sanitary workers regarding the prevention of selected occupational health hazards and their demographic variables.

The review of literature was done and organized under following headings. Studies related to occupational diseases among sanitary workers, effectiveness of planned teaching programme in general and knowledge and attitude of sanitary workers. The conceptual frame work for this study was based on Lewin and Beckers health belief model.
Research approach used for this study was quasi experimental approach. One group pretest – post research design was used for this study. 50 sanitary workers at Madurai Corporation were samples of this study. Purposive sampling technique was used. A questionnaire and checklist was developed and used for data collection. The data collection procedure was held in three phases. In the first phase, knowledge and attitude on prevention of occupational health hazards was assessed. During the second phase, The Planned teaching program was administered to the same group with same structured interview was taken after 8 days of the planned teaching program.

The data was analyzed in terms of the objectives of the study using descriptive and inferential statistics. The study findings show that the knowledge and attitude of the sanitary workers after the planned teaching program.

The findings of the study reveals that there was a relationship between post test level of knowledge and attitude of the sanitary workers and there were no significant association between knowledge, attitude with selected demographic variables.

This study concludes that the planned teaching program play a vital role in creating awareness and to improve the knowledge and attitude of sanitary workers on prevention of occupational health hazards. The investigator assured that the sanitary worker who were participated in this study would maintain the personal hygiene and wear personal protective equipments. They would try to avoid the habits of abusing substances and they will not hesitate to go regular periodical medical checkups.
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APPENDIX-II

LETTER SEEKING FOR THE CONTENT VALIDITY

From
Ms. Ranjani Devi.P
II year M.Sc (N) Student,
C.S.I. Jeyaraj Annapakiyam College of Nursing,
Madurai.

To
Forwarded through
Prof. Dr. (Mrs). C. Jothi Sophia, M.Sc(N), Ph.D.,
Principal,
C.S.I Jeyaraj Annapackiam College of Nursing,
Madurai.

Respected madam / sir,

Sub: Requisition for opinions and suggestions of experts for establishing content validity of research tool.

With due regards, I kindly bring to your knowledge that I am a post graduate student of the C.S.I. Jeyaraj Annapakiyam College of Nursing, Madurai. I have selected the below mentioned topic for dissertation to be submitted to the TamilNadu Dr.M.G.R.Medical University, Chennai as a part of partial fulfillment of Master of Nursing Degree.

My dissertation topic is as follows:

“A study to evaluate effectiveness planned teaching programme on knowledge and attitude of sanitary workers regarding Prevention of Occupational health hazards in selected areas at Madurai.”

With regards I humbly request you to validate my study instruments. I will be greatful if you do this favour to me as early as possible.

Thanking you

Date:          Yours Sincerely,
Place: Madurai

(Ranjani Devi.P)
APPENDIX-III

LETTER SEEKING PERMISSION TO CONDUCT MAIN STUDY

From
MS. Ranjani Devi.P,
M.sc.,(N) II year,(Community health nursing),
C.S.I Jeyaraj Annapackiyam College of Nursing,
Pasumalai,
Madurai.

To
The Deputy Director of health services
Madurai Corporation,
Madurai.

Forwarded through
Prof. Dr. (Mrs). Jothi Sophia, M.Sc(N), Ph.D.,
The principal,
C.S.I. Jeyaraj Annapackiam college of nursing.
Madurai.

SUB:
Seeking permission and to carry out the research on sanitary workers.

Respected sir,
I am a post graduate student of the C.S.I Jeyaraj Annapackiam college of nursing Madurai. I have selected the below mentioned topic for the research project to be submitted to the Tamilnadu Dr.M.G.R.Medical University, Chennai as a part of partial fulfillment of Masters in nursing degree.

“A study to evaluate effectiveness planned teaching programme on knowledge and attitude of sanitary workers regarding Prevention of Occupational health hazards in selected areas at Madurai.”

I would like to conduct this study in Madurai Corporation sanitary workers.Hence I request you to kindly grant me permission for the same.

Thanking you

Date: 
Place: 

Yours obediently,

Ranjani Devi.P
APPENDIX – IV
LIST OF EXPERTS

   Former Professor of community medicine,
   Madras Medical college,
   Chennai.

2. Dr. Raj kumar M.D, P.hD,
   Professor of community medicine,
   Meenakshi medical college,
   Chennai.

3. Mrs. Helan Rajamanickam M.sc ( N),
   Professor of community health nursing department,
   Matha college of nursing ,
   Mana Madurai.

4. Dr. Siva kumar M.B.B.S.,
   Block medical officer,
   T.P.K. primary health centre,
   Thirupparankundram.

5. Mr. John Sam Arun Prabu M.sc(N), Ph.D,
   H.O.D. of community health nursing department,
   C.S.I. Jeyaraj Annapackiam college of nursing,
   Pasumalai.

6. Mrs. Diana M.sc(N),
   Vice principal,
   C.S.I. college of nursing,
   Neyyoor.
7. Mrs. Celina M.sc(N),
   Vice principal,
   Umayalachi college of nursing,
   Chennai.

8. Mrs. Jeya Thanga Selvi M.sc(N), Ph.D,
   H.O.D. of Medical surgical nursing department,
   C.S.I. Jeyaraj Annapackiam college of nursing,
   Pasumalai.

9. Mrs. Shanthi M.sc(N),
   Professor,
   C.S.I. Jeyaraj Annapackiam college of nursing,
   Pasumalai.

10. Mrs. Jancy Raichel M.sc(N), Ph.D,
    H.O.D of Mental health nursing,
    C.S.I. Jeyaraj Annapackiam college of nursing,
    Pasumalai.

11. Mrs. Rose Rajesh M.sc(N), Ph.D,
    H.O.D. of child health nursing,
    C.S.I. Jeyaraj Annapackiam college of nursing,
    Pasumalai.

12. Mr. Edwin Rajkumar MSW.,
    Professor, Sociology department,
    C.S.I. Jeyaraj Annapackiam college of nursing,
    Pasumalai.
APPENDIX -V

QUESTIONNAIRE TO ASSESS THE KNOWLEDGE ON SANITARY WORKER’S REGARDING OCCUPATIONAL HEALTH HAZARDS.

INSTRUCTION: PLACE A TICK MARK ON THE ANSWERS WHICH THE RESPONDENTS FIND AS MORE APPROPRIATE.

SECTION –A

Demographic data

<table>
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<tr>
<th>NAME</th>
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</table>

1. Age in years
   (a) 20-30
   (b) 31-40
   (c) 41-50
   (d) Above 50

2. Sex
   (a) Male
   (b) Female

3. Educational status
   (a) Literate
   (b) Illiterate

4. Marital status
   (a) Married
   (b) Unmarried
   (c) Widowed
   (d) Divorced
5. Religion
   (a) Hindu
   (b) Muslim
   (c) Christian
   (d) Others ________________

6. Occupational experience in years
   (a) 1-5
   (b) 5-10
   (c) Above 10

7. Duration of work per day
   (a) 1-5 Hours
   (b) 5-8 Hours
   (c) More than 8 Hours

8. Are you having any personal habits?
   (a) Yes
   (b) No

9. If yes specify
   (a) Smoking
   (b) Alcoholism
   (c) Drinking
   (d) Drug addiction
   (e) Smoking and smokeless tobacco
   (f) Smoking and drinking
   (g) Smoking and drug addiction
   (h) Smokeless tobacco and drinking
   (i) Drinking and drug addiction
   (j) Smokeless tobacco and drug addiction
10. Have you got any training on Bio medical waste management?
   (a) Yes
   (b) No

11. Have you immunized against any disease?
   (a) Yes
   (b) No

12. If yes, how many doses taken? In which age taken latest dose?
SECTION- B

QUESTIONNAIRE TO ASSESS THE KNOWLEDGE OF SANITARY WORKERS RELATED TO OCCUPATIONAL HEALTH HAZARDS.

INSTRUCTION

- PLACE A TICK MARK ON THE ANSWERS WHICH THE RESPONDANTS FINDS A MORE APPROPRIATE.
- FOR CERTAIN QUESTIONS MORE THAN ONE RESPONSE MAY BE FOUND APPROPRIATE.
- EVERY CORRECT ANSWERS CARRY ONE SCORE.

PART- I: GENERAL

1. How will you define health?
   (a) A state of complete absence disease
   (b) A state of physical and mental wellbeing
   (c) A state of physical, mental, and social wellbeing
   (d) Don’t know

2. What do you mean by micro organisms?
   (a) Bacteria
   (b) Virus
   (c) Disease producing agents
   (d) Don’t know

3. What are the types of diseases?
   (a) Communicable
   (b) Non communicable diseases
   (c) Hereditary
   (d) Don’t know
4. What type of health problems commonly occur in sanitary workers?

(a) Respiratory problems

(b) Skin problems

(c) Gastrointestinal problems

(d) Eye problems

(e) Musculo skeletal problems

(f) Don’t know
PART-II: RESPIRATORY PROBLEMS

5. What type of respiratory problems common in sanitary workers?
   (a) Upper respiratory tract infections
   (b) Occupational lung diseases
   (c) Don’t know

6. What are the causes of respiratory infections?
   (a) Allergy
   (b) Infections
   (c) Don’t know

7. What are the symptoms of respiratory problems?
   (a) Cough
   (b) Sputum production
   (c) Wheezing
   (d) Sore throat
   (e) Don’t know

8. How do we prevent respiratory infections?
   (a) Frequent hand washing
   (b) Vitamin c rich diet
   (c) Using face mask
   (d) Wearing gloves
   (e) Personal hygiene
   (f) Don’t know

9. What are the complications of respiratory problems?
   (a) Pulmonary damage
   (b) Cor pulmonale
   (c) Occupational Asthma
   (d) Lung cancer
   (e) Don’t know
PART – III: SKIN DISEASES

10. Which is the most common skin disease among sanitary worker?
   (a) Contact dermatitis
   (b) Don’t know

11. What are the causes of skin problems among sanitary workers?
   (a) Prolonged exposure of skin contact with dust
   (b) Irritation to mineral oil and tar
   (c) Air borne contact
   (d) Don’t know

12. What are the signs and symptoms?
   (a) Itching
   (b) Redness
   (c) Rashes
   (d) Don’t know

13. What are all the ways to protect the skin from disease?
   (a) Taking bath after work
   (b) Wearing protective clothing
   (c) Using sun screen lotions
   (d) Go for regular periodical medical examination
   (e) Don’t know

14. What are the complications of skin diseases?
   (a) Secondary dermatitis
   (b) Skin ulceration
   (c) Wound is not heal for a long time
   (d) Don’t know
PART-IV: GASTRO INTESTINAL PROBLEMS

15. What are the common gastro intestinal problems among sanitary workers?
   (a) Diarrhea
   (b) Indigestion
   (c) Dyspepsia
   (d) Worm infestation
   (e) Don’t know

16. What are all the common causes of diarrhea?
   (a) Infection
   (b) Consumption of alcoholic beverages
   (c) Poor personal hygiene
   (d) Inadequate hand washing
   (e) Don’t know

17. What are the signs and symptoms of diarrhea?
   (a) Frequent passage of loose tools
   (b) Don’t know

18. What are the preventive measures of diarrhoea?
   (a) Wash the hands with soap and water after work
   (b) Avoiding the consumption of alcoholic beverages
   (c) Maintain proper personal hygiene
   (d) Drink boiled cool water
   (e) Don’t know
19. What do you mean by worm infestations?
   (a) Worms present in the stool
   (b) Worms present in the Gastrointestinal tract
   (c) Attack of Parasite in the body
   (d) Don’t know

20. What are the worms which affects human beings?
   (a) Round worm
   (b) Hook worm
   (c) Tape worm
   (d) Don’t know

21. What are the symptoms of worm infestation?
   (a) Pallor
   (b) Loss of appetite
   (c) Abdominal pain
   (d) Weight loss
   (e) Loss of sleep
   (f) Diarrhea
   (g) Itching over the anal region during night time
   (h) Don’t know

22. What are all the methods to prevent worm infestation?
   (a) Kept Nails short and clean
   (b) Wash the hands with soap and water after defecation
   (c) Wearing proper foot wears while working
   (d) Wash all the vegetables thoroughly before cooking
   (e) Don’t know
23. What are the complications of worm infestation?

(a) Anaemia
(b) Malnutrition
(c) Loss of appetite
(d) Recurrent infection
(e) Don’t know
24. What are the common causes of eye problems among sanitary workers?
   (a) Occupation which constantly exposure to pollutants
   (b) Handling dust particles
   (c) Don’t know

25. What are the symptoms of eye diseases?
   (a) Redness
   (b) Watering of the eye
   (c) Irritation
   (d) Don’t know

26. How will you protect your eyes from diseases?
   (a) Wearing protective glasses during work
   (b) Avoid touching the eyes after work
   (c) Avoids rubbing the eyes
   (d) Wash the eyes with clean water
   (e) Don’t know

27. What are the complications of eye diseases?
   (a) Chronic conjunctivitis
   (b) Vision impairment
   (c) Blindness
   (d) Don’t know
PART-VI: MUSCULOSKELETAL PROBLEMS

28. Which is the common Musculoskeletal problem that will affect the sanitary and sewage worker?
   (a) Neck pain
   (b) Upper back pain
   (c) Low back pain
   (d) Don’t know

29. What are the causes of Musculoskeletal problem?
   (a) Improper body mechanics
   (b) Don’t know

30. What are the signs and symptoms of muscular skeletal problems?
   (a) Generalized body pain
   (b) Fatigue/Weakness
   (c) Don’t know

31. What safety measures to be followed to prevent work related musculoskeletal problems?
   (a) Exercises
   (b) Proper body mechanics
   (c) Adequate rest
   (d) Don’t know

32. What are the complications of musculoskeletal disorder?
   (a) Decreased muscle elasticity
   (b) Weakness
   (c) Don’t know
## SECTION -C

**QUESTIONNAIRE ON ATTITUDE AMONG SANITARY WORKERS IN RELATION TO PREVENTION OF OCCUPATIONAL HEALTH HAZARDS**

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<th>Disagree</th>
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<td>Do you think maintaining good personal hygiene is not essential for avoiding occupational diseases?</td>
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<td>Periodic medical examination is not necessary</td>
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<td>Proper body mechanics is essential in preventing occupational health hazards</td>
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<tr>
<td>5</td>
<td>Do you think it is not necessary for vaccinate against hepatitis</td>
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<td>6</td>
<td>Proper hand washing technique is not reduce the incidence of diarrhea</td>
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<td>7</td>
<td>Wearing mask, and gloves is optional</td>
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<tr>
<td>8</td>
<td>Consuming alcohol, cigarette due to work load triggers occupational hazards</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Early diagnosis and treatment can prevent complications of occupational health hazard</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>It is not necessary for all family members to undergo prevention of worm infestation measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>There is no need to showering after work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Intake of coffee and tea more than three time during work time is essential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## SECTION –D

CHECK LIST ON SIGNS AND SYMPTOMS OF PREVALENCE OF OCCUPATIONAL HEALTH DISEASES BASED ON VARIOUS BODY SYSTEMS

<table>
<thead>
<tr>
<th>S. No</th>
<th>Body system</th>
<th>Signs and Symptoms</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Respiratory system</td>
<td>Recurrent upper respiratory tract infection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic cough</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Integumentary system</td>
<td>Itching</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin rashes / allergy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Gastro Intestinal system</td>
<td>Recurrent episodes of diarrhea</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worm infestations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Sensory organ -eye</td>
<td>Burning sensation in the eye</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eye irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Musculo skeletal system</td>
<td>Back pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pain in extremities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX-VI

(ணக்) – 1

நூற்றாண்டு கலைநிலைக்கான வாரிச்சல் நூற்றாண்டுக்கு பிறந்த முறைக்கு (v) கிருட்முறை.

அட்டவணை 1: குறுக்கைகள்

இலம்பை: மாருத்து வகை

1. மாடி (முறைப்படுத்துதல்)
   1. 20 - 30
   2. 31 - 40
   3. 41 - 50
   4. 50 முறைக்கு வல்ல

2. மாட்டை
   1. முழுது
   2. எடுக்கப்

3. கேட்டை விளை
   1. முழுக்கும்
   2. முழுக்கான

4. நூற்றாண்டு விளை
   1. நூற்றாண்டுக்கான
   2. நூற்றாண்டுக்கான
   3. காப்பிலை
   4. நூற்றாண்டு காலந்து

5. மாடி
   1. முடி
2. எழுக்குதல்
3. புரிந்து
4. முற்பகுதி (இறைவின்)
5. கூற்றுள் அல்லது பெருந்துறைகள்
   1. 1 - 5 பெருந்துறை
   2. 5 - 10 பெருந்துறை
   3. 10 பெருந்துறைகள் விளை
6. ஐரோப்பிய ஒன்றாட்சியில் முதலாம் நிலைகள்
   1. 5 முதல் 8 முதலிதழ்
   2. 8 முதல் இரண்டாம் நிலை
7. சுற்றுச்சுற்றுக் கூற்றுகள் மூன்றாம் நிலையில் வேளாண்டு முறைகள்
   1. 5 முதல் 8 முதலிதழ்
   2. 8 முதல் இரண்டாம் நிலை
8. கூற்றுள் ஐரோப்பிய ஒன்றாட்சியில் எதுவும் புகழ்பெற்று என்ன விளக்கம்?
   1. புரிந்துறைகள்
   2. புரிந்துறைப்பன் புகழ்பெற்று
   3. அவர்பாடுகள்
   4. டெக்காப்பாடுகள்
   5. புரிந்துறைப்பன் முதலிதழ் புரிந்துறைப்பன் புகழ்பெற்று
   6. புரிந்துறைப்பன் முதலிதழ் அவர்பாடுகள்
   7. புரிந்துறைப்பன் முதலிதழ் டெக்காப்பாடுகள்
   8. புரிந்துறைப்பன் புகழ்பெற்று முதலிதழ் அவர்பாடுகள்
   9. அவர்பாடுகள் முதலிதழ் டெக்காப்பாடுகள்
   10. புரிந்துறைப்பன் புகழ்பெற்று முதலிதழ் டெக்காப்பாடுகள்
9. கூற்றுள் ஐரோப்பிய ஒன்றாட்சியில் எதுவும் எதுவும் பெருந்துறையில்
   என்ன விளக்கம்;
   1. ஆன்
   2. இல்லை
10. கூற்றுள் ஐரோப்பிய ஒன்றாட்சியில் எதுவும் எதுவும் என்ன விளக்கம்;
பகுதி II

இன்றும் யாரும் விளக்காளராகக் காட்டப்படும் வார்த்தைகள் கொண்டு கொண்டு பாடல்கள் பேரை வைத்து செல்லாதவர்கள் விளக்கர்.

பிரிவு - I

ஒவ்வொரு தெய்வமும் என்னால் கலன் விவசாயிகள் பற்றியும் வாழ்க்கை விளக்கங்கள்

1. தேவர் தம்மையும் கையாளும் வெளியைக்?
1. மூன்றிலும் பேரும்பைத் தீர்வு
2. இல்லாத பேரும்பபாத் பலியுத்தகம்
3. இல்லாத பேரும் பெருமளவு முறையாகபடுத்தப்பட்டு இல்லாது காண முடியாது
4. நம்பிக்கை

2. குறிப்பிட்டு கீழ்கட்டுள்ள ஓரால் ஆர்த்தம் பாது?
1. பரசெகிலம்
2. கென்றாகம்
3. பேரும்பபாத் பொருளுக்கான சுழல்
4. நம்பிக்கை

3. பேரும்பபாத் கூட்டு காலப்பாதிக்காராய?
1. பேரும்பபாத் பெருமளவு
2. பேரும்பபாத் குற்றமுறை
3. பேரும்பபாத் பொருள்
4. நம்பிக்கை

4. முன்னணி பேரும்பாபாதிக்கு பொருளாகபடுத்தப்பட்டு செய்யவேண்டும் இல்லாது அல்லாது பெரும்பாதிக்காராய?

5. பேரும்பபாத் குற்றமுறைக்கு குறிப்பிட்டு பொருளாகபடுத்தப்பட்டு இல்லாது காணாமல்கேண்டது?
1. இல்லாத பேரும்பபாத்
2. கூட்டு குற்றமுறை பேரும்பாபாத்
3. நம்பிக்கை
6. கலாச்சாரத்தில் வித்தமரபாடுகள் காரணங்கள்
   1. அவர்களின் (தலைவர்களின்)
   2. தமிழ்நாட்டு மக்கள்
   3. தமிழ்மொழி

7. கலாச்சாரத்தில் வித்தமரபாடுகள் அதிகளிகள் பார்வை?
   1. நன்கு
   2. சரியான
   3. தமிழ்மொழி
   4. தமிழ்மொழி மூலம் வாய்ப்பு
   5. தமிழ்மொழி

8. கலாச்சாரத்தில் வித்தமரபாடுகள் குறித்தகங்கள்?
   1. கருத்தகங்கள் அடுத்தடுத்து குறித்தகங்கள்
   2. கலாச்சாரத் ‘க’ அடுத்தடுத்து குறித்தகங்கள்
   3. கலாச்சாரத் அடுத்தடுத்து
   4. கலாச்சாரத் அடுத்தடுத்து
   5. கலாச்சாரத் குறித்தகங்கள்
   6. தமிழ்மொழி

9. தமிழ் தொலை வித்தமரபாடுகள் தமிழ்மொழி பிட்ச் வித்தமரபாடுகள் பாதுகாக்கவும்?
   1. தமிழ்மொழி மூலம் தமிழ்மொழி பிட்ச் வித்தமரபாடு
   2. இல்லாமலோ
   3. தமிழ்மொழி பிட்ச் வித்தமரபாடு
   4. தமிழ்மொழி
பகுதி-III

10. வருடம் பலனில்களில் பருவக் காலம் வருமாறு உயர்த்தல் எந்த என்ன?

1. தவறான வருடம் பருவம் உயர்த்தல்
2. உயர்த்தல்

11. வருடம் பலனில்களில் பருவம் உயர்த்தல் எந்த எந்த காரணிகளின் காரணமாக இருக்கிறது?

1. வெளியானைகள் துணையில் பருவம் உயர்த்தல் செய்யலாம்
2. குறுக்கு வளமையில் பருவம் உயர்த்தல் ஆறு பருவம் உயர்த்தல்
3. குறுக்கு அடுக்கு பருவம் உயர்த்தல்
4. அறிவுடைத்தீர்க்கு.

12. நூற்றொன்றில் அனுமான குறிப்பிட்டோர் அமிலத் தொகுதிகள் பாதியுள்ளனவா? 
   1. அராணாட்சியாக விளக்கம் செய்யவும் 
   2. சிறந்த அமிலாக விளக்கம் செய்யவும் 
   3. நூற்றொன்றில் அனுமான விளக்கம் செய்யவும் 
   4. அறிவுடைத்தீர்க்கு.

13. நூற்றொன்றில் அமிலத்துடன் பாதிப்பான பாதிகள் பாதியுள்ளது அதிகமாகவே என்று எண்ணம் செய்யவுள்ள நூற்றொன்றில் அமிலத்துடன் பாதிப்பான பாதிகள் பாதியுள்ளது என்று எண்ணம் செய்யவுள்ள 
   1. குறைந்த உயிர்வுப் பிள்ளை குறிப்பிட்டீர்க்கும் 
   2. பாதிப்பு மேலும் குறைந்தவை அமிலத்துடன் 
   3. அமில அமிலத்துடன் பாதிகள் குறைந்தவை அமிலத்துடன் 
   4. அமிலத்துடன் குறைந்த உயிர்வு குறைந்தவை பாதிப்பு குறைந்தவை அமிலத்துடன் 
   5. அறிவுடைத்தீர்க்கு.

14. நூற்றொன்றில் அமிலத்துடன் பிள்ளை மிக்கவாக்கத்தோன பாதியுள்ளனவா? 
   1. பிள்ளையார் பிள்ளையார் நூற்றொன்றில் அமிலத்துடன் 
   2. நூற்றொன்றில் பாதிகள் அமிலத்துடன் 
   3. நூற்றொன்றில் பாதிகள் அமிலத்துடன் 
   4. அறிவுடைத்தீர்க்கு.
15. நூற்றாண்டு பல்லவராக காத்து எப்படி காத்து எரிபாளரை காத்து என்ன நூற்றாண்டு

பார்த்து?

1. அம்பியுமனிப்பகத
2. தரிசம்முமனிகம்
3. அம்பியுமனிக
4. புதுப்பகத
5. தெரிகாத

16. அம்பியுமனிப்பகத எப்படியானவரின் காத்து என்ன நூற்றாண்டு பார்த்து?

1. சுனாந்த சுனாந்த
2. சுமாசாராய் சுமாசாராய் பல்லவராக எப்படியார்?
3. அம்பியுமனிப்பகத
4. நூற்றாண்டு என காத்து எப்படியானவர் காத்து எப்படியார்?
5. நுழைவது

17. தமிழ் பொருளில் அல்லது நோக்கங்கள் பலகை?
   1. அந்தத் திருத்தக்கை நீண்டயமான பலகை தீமையிலும்
   2. நுழைவது

18. தமிழ் பொருளில் குறிக்குறிக்கு பலகை?
   1. வெள்ளை மீனாடிகள் வள்ளக்கை குறிப்பிட்டு விளக்கம் குறிப்பிட்டு
   2. குறிப்பிட்டு பலகை அறிக்கையை குறிப்பிட்டு
   3. மாயக்கும் குறிப்பிட்டு
   4. குறிப்பிட்டு அறிக்கையை குறிப்பிட்டு
   5. நுழைவது

19. புதுக்கல்கள் கல்வி எளித்?
   1. வருவையில் புதுக்கள் விளைப்பெறும்
   2. வலையால் வருவையில் புதுக்களில் குறிப்பிட்டு
   3. வருவை வலையில் அனுமான பெருமை குறிப்பிட்டு
   4. நுழைவது

20. குறிப்பிட்டு புதுக்கள் வலையில் வழித்தொடுகிறான?
   1. வலையால் புருந்து
   2. வலையால் புருந்து
   3. வலையால் புருந்து
   4. நுழைவது

21. புதுக்கல்களில் அறிக்கைகள் பலகை?
   1. வருவையால் புருந்து
   2. வலையால்
   3. நுழைவது
   4. நுழைவது
   5. நுழைவது
   6. நுழைவது
7. இராசு விளையாட்டில் அல்லாதுவம் குறிப்பிட்டு நேரடியாக அறிவு

8. தீர்மானம்

22. புருஷரசையான தருமரசையான நூறு ஆண்முன் நிறுத்தலகை நீரூறுக்காணலை எவ்வாறென்?
   1. நெருந்தை தருமரசையான பொருள்
   2. வெளிய நிறுத்தலை நெருந்தையான ஒளிப்பட்டு செய்திகள்
   3. நெருந்தைகள் நெருந்தையான ஆரம்பிப்பு
   4. நெருந்தைகள் நெருந்தையான நெருந்தைகள்
   5. தீர்மானம்

23. புருஷரசையான தருமரசையான பாகிய விளக்கங்களை
   1. நீரூறு விளக்கம்
   2. பெரியெல்லம்
   3. இரண்டு புருஷரசைகள்
   4. தீர்மானம்
24. கொழும்பு பக்தி பார்க்கும் பாடல்களை கூறுப்பட்டு காட்டுக்கொள்கிறேன்

மாணவை?
1. குரு தம்பதாயக் விளையாட்டு
2. பாடல்களின் வழியில் பாடல்களை குறிப்பிட்டேன்
3. விளையாட்டு

25. கண்டாண்டமைந்த பாடல்களை அறிந்தேன் பாண்டை?
1. கீழ்க்குறிட்டு கண்டாண்டை
2. கண்டாண்டுக்கு பிற அமைப்பு
3. கண்டாண்டில் விளையாட்டு
4. விளையாட்டு

26. கொழும்பு கண்டாண்டால் இன்று பாடல்களை பாண்டை?
1. கண்டாண்டுக்கு கொழும்பு அமைப்பு
2. விளையாட்டு பிரச்னை கண்டாண்டன இன்று விளையாட்டு
3. கண்டாண்டன விளையாட்டு
4. விளையாட்டு

27. கொன்று பிரச்னையாளனே முருக்கு பிள்ளை விளையாட்டு?
1. கொழும்பு முருகையாளனே விளையாட்டு
2. கல்லூரிகள்
3. கல்வி பாட்டுகள்
4. பதிப்புகள்

பகுதி VI

28. தென்னிந்தியாவின் பொழுதையான கல்விக்குறிப்புக் குழு தேசிய தொலையான பொழுதையான கல்விக்குறிப்புக்

1. குறிப்பிட்டிடம்
2. தொலையான குறிப்பிட்டிடம்
3. நோய் குறிப்பிட்டிடம்
4. பதிப்புக்கள்

29. தென்னிந்தியாவின் கல்வி பொழுதையான பொழுதையான கல்விக்குறிப்புக் குழு தேசிய தொலையான பொழுதையான கல்விக்குறிப்புக்

1. பதிப்புக்குறிப்பு தொலையான
2. பதிப்புக்கள்

30. தென்னிந்தியாவின் கல்வி பொழுதையான கல்விக்குறிப்புக் குழு தேசிய தொலையான பொழுதையான கல்விக்குறிப்புக்

அமைப்பிட்டிடம்

1. வாழ்க்கை பொழுதையான கல்விக்குறிப்பு
2. பாதுகாப்பு
3. அத்திகம்
4. பதிப்புக்கள்

31. தென்னிந்தியாவின் கல்வி பொழுதையான கல்விக்குறிப்பு குழு தேசிய தொலையான பொழுதையான கல்விக்குறிப்பு அமைப்பிட்டிடம் பலகை?

பட்டியலிடுதல்

1. பதிப்புக்குறிப்பு தொலையான
2. பதிப்புக்கள்
3. கருவியற் கல்விக்கேற்ற வகையில் வழங்கப்படாத

4. வலிவப்படுத்த

32. உடலும் கீழ்ப்பகுதியில் பருகுக்காகத்திலிருந்து அழைக்கப் பயன்படும் பிள்ளைகள் எதுவும் காட்டைகளத்தை

மாற்றம்?

1. கையேறு கல்லை
2. பேராணி
3. வலிவப்படுத்த
<table>
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<tr>
<th>கோட்டை</th>
<th>பிரிவரிக்கப்பட்ட விளக்கம்</th>
<th>பொருள்</th>
<th>தமிழில் இந்திக்காள்</th>
<th>மொத்தப்பொருள் இந்திக்காள்</th>
<th>பொருள் பாதுகாப்பு வழிகாட்டுச் செயல்கள்</th>
<th>மொத்தப்பொருள் பாதுகாப்பு வழிகாட்டுச் செயல்கள்</th>
<th>பொருள் பாதுகாப்பு வழிகாட்டுச் செயல்கள்</th>
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<td>1.</td>
<td>எடுக்கப்பட்டது</td>
<td>கையாண்டுநிலைக் குறுகியால் மூலம் செய்யப்படும் செயல்கள்</td>
<td>எடுக்கப்பட்ட வேட்டும் செயல்கள் மற்றும் துணையான செயல்கள்</td>
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<td>3.</td>
<td>வேட்டுத்தொடர்கள் என்று வேட்டும் துணையான செயல்கள் மற்றும் துணையான செயல்கள்</td>
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<td>இதில்லை, விளக்கத்தின் தேவைப்படும் கடனை வழங்க வேண்டும் விளக்கத்தின் தொடர்வேணும்.</td>
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## APPENDIX – VII

### KEY NOTE

### PART – II

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APPENDIX-IX

STRUCTURED VIDEO PROGRAMME ON PREVENTION OF

OCCUPATIONAL HEALTH HAZARDS

Subject : Community Health Nursing
Topic : Prevention of occupational health hazards
Group : Sanitary workers
Place : Madurai Corporation office
Method of Teaching : Short film with group discussion method
Time : 45 minutes
Material : video film, flex and Pamphlets

General objectives

At the end of the teaching program the sanitary workers will acquire knowledge on prevention of occupational health hazards

Specific objectives

At the end of the teaching programme sanitary workers can explain

- Definition of occupational health hazards
- Types of common occupational diseases among sanitary workers
- Causes of occupational diseases
- Signs and symptoms of occupational diseases
- Prevention of occupational diseases
- Complications of occupational diseases
PREVENTION OF OCCUPATIONAL HEALTH HAZARDS

INTRODUCTION

Occupational health represents a dynamic equilibrium between the worker and his occupational environment. Occupational health care is preventive health care, which is provided on the basis of the Occupational Health Care Act. Worldwide it is estimated that job-related accidents and illness claim more than 2 million annually, and this number appears to be rising because of industrialization in developing countries (WHO-2005). In that year, there were approximately 5,559 occupational fatalities fishing, mining, construction and agriculture have the highest rates of work related deaths(CDC,2005).These statistics do not reflect the unreported health problems. For example, a sanitary worker leaves the work site everyday with back strain and headache as a result, collective problems related to employment or occupation are often perceived as individualized injuries, and no one “connects dots”.

THE OBJECTIVES OF OCCUPATIONAL HEALTH CARE

- To provide a healthy and safe working environment, a well-functioning working community,
- To prevent of work-related diseases
- To maintain the employees’ working ability and functional capacity, and promotion of their health.

DEFINITIONS

Health: It is a state of complete physical, mental, social well being and not merely an absence of disease or infirmity.

Occupational health

The modern definition of Occupational Health (ILO and WHO) is:
“The promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations – total health of all at work”.

**Occupational health hazard**

‘Source or situation with a potential for harm in terms of injury or ill health, damage to property, damage to the workplace environment, or a combination of these’.

‘Types of occupational health hazards’

- Physical-Heat, cold, light, Noise, Radiation, Pressure
- Chemical-Coal, silica
- Biological-Leptospirosis, Anthrax, Tetanus
- Mechanical-Protruding or moving part of machinery
- Psychosocial-Frustrations at home, lack of job satisfaction

**Occupational diseases**

Occupational health hazards are usually defined as diseases arising out of or in the course of employment.

**Occupational diseases among sanitary workers**

Although essentially healthy, like active workers in general, there are some reports about negative health effects among sanitary workers.

**Major occupational health hazards**

- Respiratory problems
- Skin problems
- Gastro intestinal problems
- Eye problems
- Muscle skeletal problems
Respiratory problems

The common respiratory problems of sanitary workers are:

- Upper respiratory tract infections
- Occupational lung diseases

Upper respiratory tract infection

The term “common cold” often used when referring to an upper respiratory tract infection that is self limited and caused by a virus.

Signs and symptoms

- Nasal congestion
- Runny nose
- Sneeze
- Nasal itchiness
- Tearing watery eyes
- Sore throat
- General malaise
- Low grade fever
- Headache
- Muscle ache
- Cough

Occupational lung diseases

Dust within the size range of 0.5 to 3 micron, is a health hazard producing after a variable period of exposure, a lung disease is known as occupational lung disease.
Factors increasing the hazardous effect of dusts on lungs

- Chemical composition
- Fineness
- Concentration of dust in air
- Period of exposure
- Health status of person exposed

The complications of respiratory problems

- Pulmonary damage
- Cor pulmonale
- Occupational Asthma
- Lung cancer

Prevention of respiratory infections

- Smoking cessation
- Frequent hand washing
- Vitamin c rich diet
- Using face mask
- Wearing gloves
- Personal hygiene
- Take adequate rest
- Taking 3 meals a day is compulsory to improve immune system
- Deep breathing and coughing exercises
- Periodic medical examination
- Avoid consuming alcohol
- Take more vegetables and fruits
SKIN DISEASES

The common skin disease among sanitary and sewage worker is Contact dermatitis. Occupational dermatitis is a big health problem.

Causes of skin problem are:

Physical: Heat, cold, moisture, friction, pressure, and other rays

Chemical: Acids, alkalies, dyes, solvents, grease, tar, pitch, chlorinated phenols etc.

Biological: Living agents such as viruses, bacteria, fungi and other parasites

Plant products: leaves, vegetables, fruits, flowers, vegetable dust, etc.

Further Causes of dermatitis

- Primary irritants: Prolonged exposure of skin contact with dust, Air borne contact
- Sensitisation to substances: Irritation to mineral oil and tar

Signs and symptoms of skin problems

- Itching
- Redness
- Rashes

Prevention of skin diseases

- Taking bath after work
- Wearing protective clothing
- Washing clothes frequently and kept well
- Use long leather gloves, apron and boots
- Using Barrier creams
- Go for regular periodical medical examination
Strategies for avoiding contact dermatitis

The following precautions may help prevent repeated cases of contact dermatitis. Follow these instructions for at least 4 months after your skin appears to be healed.

- Study the pattern and location of your dermatitis and think about which things have your skin and which things have caused the problem.
- Try to avoid contact with these materials.
- Avoid heat, soap, and rubbing, all of which are external irritants.
- Choose bath soaps, laundry detergents, and cosmetics that do not contain fragrance.
- Avoid topical medications, lotions, or ointments, except those specifically prescribed for your condition.
- Wash your skin thoroughly immediately after exposure to possible irritants.
- When wearing gloves be sure they are cotton-lined.

The complications of skin diseases

- Secondary dermatitis
- Skin ulceration
- Wound is not heal for a long time
GASTRO INTESTINAL PROBLEMS

The common gastro intestinal problems among sewage worker

1. Diarrhea
2. Indigestion
3. Dyspepsia
4. Worm infestation

Diarrhoea

A condition in which faeces are discharged from the bowels frequently and in a liquid form.

Indigestion

Pain or discomfort in the stomach associated with difficulty in digesting food.

Dyspepsia

Dyspepsia means indigestion

Worm infestation

Intestinal or other internal parasites which is having long slender soft body and no limbs.

DIARRHOEA

Diarrhoea is increased frequency of bowel movements (more than three per day), increased amount of stool (more than 200 g per day), and altered consistency (ie, looseness) of stool.
The common causes of diarrhea

- Infection
- Consumption of alcoholic beverages
- Poor personal hygiene
- Inadequate hand washing

Signs and symptoms

- The increased frequency and fluid content of stools
- Abdominal cramps
- Distention
- Intestinal rumbling
- Anorexia
- Thirst
- Painful contractions of the anus
- Ineffectual straining
- Dehydration

The preventive measures of diarrhea

- Avoid caffeine, and very hot and very cold foods
- Keep the nails short and clean
- Avoid to take the foods contaminated with flies
- Wash the hands with soap and water after work
- Avoiding the consumption of alcoholic beverages
- Maintain proper personal hygiene
- Drink boiled cool water
- Immunization for the epidemic diarrhoeal diseases
Complications

- Potential for cardiac dysrhythmias
- Fluid and electrolyte loss
- Decreased urine output
- Muscle weakness
- Paresthesia
- Hypotension
- Anorexia
- Drowsiness
WORM INFESTATION

An infection of the intestinal tract caused by adult worms.

Types of worms which affects human beings

(a) Round worm
(b) Hook worm
(c) Tape worm

The signs and symptoms of worm infestation

- Pallor
- Loss of appetite
- Abdominal pain
- Weight loss
- Loss of sleep
- Diarrhea
- Itching over the anal region during night time

The methods to prevent worm infestation

- Kept Nails short and clean
- Wash the hands with soap and water after defecation
- Wearing proper foot wears while working
- Wash all the vegetables thoroughly before cooking
- Take medications for every six month to avoid worm infestation
- Keep the environmental hygiene

The complications of worm infestation

- Anaemia
- Malnutrition
- Recurrent infection
EYE PROBLEMS

The common causes of eye problems among sanitary workers

- Occupation which constantly exposure to pollutants
- Handling dust particles

The signs and symptoms of eye diseases

- Redness
- Watering of the eye
- Irritation

Prevention of eye diseases

- Wearing protective glasses during work
- Avoid to touch the eyes after work
- Avoids rubbing the eyes
- Wash the eyes with clean water

The complications of eye diseases

- Chronic conjunctivitis
- Vision impairment
- Blindness
MUSCULOSKELETAL PROBLEMS

The common muscle skeletal problem in sanitary workers
- Neck pain
- Upper back pain
- Low back pain

The causes of Musculo skeletal problem
- Improper body mechanics

The signs and symptoms of muscular skeletal problems
- Generalized body pain
- Fatigue
- Weakness

The management of musculo skeletal problems
- Warm compress
- Exercises
- Calcium rich diet
- Analgesics

Prevention of work related musculoskeletal problems
- Stand with lower back as flat as possible. Tuck hips in by tightening abdominal muscles.
- Take break in between work.
- Maintain erect posture, use back supports while sitting.
- When walking hold head erect, chin tucked in slightly and hold stomach in. The abdominal muscles help support the lower back.
- Avoid bending, lifting, twisting at waist level.
- Do not wear high heeled shoes.
• Squat with a straight lower back

Exercise
• Daily exercise is important in the prevention of back problems
• Walking outdoors and gradually increasing the distance and pace of walking is recommended.

Preventing joint pain
• Rest the joint in a position that minimizes stress on joint structures
• Support the affected arm on pillow while sleeping, to keep from rolling over on to the shoulder
• Avoid walking and lifting above shoulder level or pushing on object against “locked” shoulder.
• Perform range of motion strengthening exercises.

Exercises for back
• Avoid work that have caused you back pain
• While standing straight, place your hands on your hips and bend over backward. Hold for 30 to 60 seconds. While sitting bend at the waist and place your head on your knees. Hold for 2 to 5 minutes.

Strategies for the person with low back pain:

Pain management:
• Limit bed rest, keep knees flexed to decreased strain on back
• Non pharmacological approaches: distraction, relaxation, imagery, thermal interventions eg. ice or heat, stress reduction
• Pharmacological approaches: non steroidal anti inflammatory drugs, analgesics, muscle relaxants
Body mechanics:

- Practice good posture
- Avoid twisting of body
- Push objects rather than pull them
- Keep load close to body when lifting
- Bend knees and tighten abdominal muscles when lifting

Work modifications

- Adjust work area to avoid stress on back
- Avoid prolonged standing and repetitive tasks
- Avoid bending, twisting, and lifting heavy objects

Stress reduction

- Discuss with the interdependence of stress and anxiety on muscle tension.
- Go for stress reduction techniques.

Complications

- Disuse muscle atrophy
- Decreased muscle elasticity
- Weakness.

CONCLUSION

“Prevention is better than cure.”

From that above discussion the sanitary workers can understand the measures to prevent themselves from work related diseases.
APPENDIX - IX

தில்மீன் பிரபலான பதிப்பு

தலைப்பு : தொல்பூண்டு காவல்கள் அலுமின் முலை நூலின் கொள்கல

தலைப்பு : தொல்பூண்டு பாதிப்புகள்

துறை : பாத்திரத்தில் குழுக்கள்-செயலுக

பொருள் : 60 புத்தகக் குறிப்பிட்டு

குறிப்பிட்டு பராமரிக்கப் பட்டியல்

குறிப்பிட்டு பராமரிக்கப் பட்டியல்

நூற்றாண்டு நூற்றாண்டு

நூற்றாண்டு கருத்துக்காட்சிகள்

தில்மீன் விளக்குகளை பின்வருமான பாதிப்புகளை விளக்குகளில் பதிவு செய்யப் பட்டியல்

- தொல்பூண்டு நூற்றாண்டு விளக்குகளில்
- தொல்பூண்டு கருத்துக்காட்சிகளில்
- தொல்பூண்டு பாதிப்புகளில்

நூற்றாண்டு நூற்றாண்டு

- தொல்பூண்டு விளக்குகளில்
- தொல்பூண்டு கருத்துக்காட்சிகளில்
- தொல்பூண்டு பாதிப்புகளில்

துறையால் விளக்கங்கள் கருத்துக்காட்சிகள்
பின்புறப்படுத்தல்:

நேர்முறையில் நடும் கட்டுப்பாடு நேர்முறையில் வழங்க எளிதாக குறிப்பிட்டோம். ஒரு பல்வேறு வகையான கூறுகள் 2 முறைகளாகவே இல்லாது. நேர்முறையில் நடும் கட்டுப்பாடு வழங்க எளிதாக குறிப்பிட்டோம். பல்வேறு வகையான கூறுகள், வழங்க எளிதாக குறிப்பிட்டோம் அடுத்து வழங்க எளிதாக குறிப்பிட்டோம். நேர்முறையில் நடும் கட்டுப்பாடு வழங்க எளிதாக குறிப்பிட்டோம் அடுத்து வழங்க எளிதாக குறிப்பிட்டோம். பல்வேறு வகையான கூறுகள், வழங்க எளிதாக குறிப்பிட்டோம் அடுத்து வழங்க எளிதாக குறிப்பிட்டோம்.

அகிலக்கட்டோணம்:

நேர்முறையில் நடும் கட்டுப்பாடு வழங்க எளிதாக குறிப்பிட்டோம். பல்வேறு வகையான கூறுகள், வழங்க எளிதாக குறிப்பிட்டோம். 

முன்னேற்ற அர்ஹ்தவாரம்

நேர்முறையில் நடும் கட்டுப்பாடு வழங்க எளிதாக குறிப்பிட்டோம். பல்வேறு வகையான கூறுகள், வழங்க எளிதாக குறிப்பிட்டோம்.

முன்னேற்ற அர்ஹ்தவாரம் விளக்கம்

>

செயல்பாடுச் சேவை

நேர்முறையில் செயல்பாடுச் சேவை வழங்க எளிதாக குறிப்பிட்டோம். பல்வேறு வகையான கூறுகள், வழங்க எளிதாக குறிப்பிட்டோம். நேர்முறையில் செயல்பாடுச் சேவை வழங்க எளிதாக குறிப்பிட்டோம். 

நேர்முறையில் செயல்பாடுச் சேவை வழங்க

நேர்முறையில் செயல்பாடுச் சேவை வழங்க எளிதாக குறிப்பிட்டோம். பல்வேறு வகையான கூறுகள், வழங்க எளிதாக குறிப்பிட்டோம். 

நேர்முறையில் செயல்பாடுச் சேவை வழங்க எளிதாக குறிப்பிட்டோம். 

நேர்முறையில் செயல்பாடுச் சேவை வழங்க எளிதாக குறிப்பிட்டோம். 

நேர்முறையில் செயல்பாடுச் சேவை வழங்க எளிதாக குறிப்பிட்டோம். 

நேர்முறையில் செயல்பாடுச் சேவை வழங்க எளிதாக குறிப்பிட்டோம்.
நூற்றாண்டு முக்கிய விளக்கக்கூற்றுக்கான காரணிகள்

- நூற்றாண்டு காரணிகள்: நவீன குலசிற்றரம், போராட்டங்களுக்கு மோசமாக அலைகள்.
- பொறுப்புக் காரணிகள்: தூய்ச் செயல்கள், போராட்டங்களுக்கு, புயலைக் குறைந்தக்காலங்கள்
- சுற்றுச்சூழல் காரணிகள்: பருவாய்கள், சுற்றுச்சூழல் குறைந்தக்காலங்கள்
- நூற்றாண்டுக் காரணிகள்: நூற்றாண்டுக் காரணிகள்; முக்கிய விளக்கக்கூற்றுக்கான காரணிகள்
- மொத்த முக்கிய நூற்றாண்டுக் காரணிகள்: விளக்கக்கூற்றுக்கான காரணிகள்

தானுந்து பல்லியல்களின் தானுந்து நூற்றாண்டு முக்கியாக நூற்றாண்டு முக்கியாகத் தானுந்து

- தானுந்து முக்கியாக நூற்றாண்டு
- தானுந்து முக்கியாக நூற்றாண்டு
- தானுந்து முக்கியாக நூற்றாண்டு
- தானுந்து முக்கியாக நூற்றாண்டு
- தானுந்து முக்கியாக நூற்றாண்டு
- தானுந்து முக்கியாக நூற்றாண்டு
- தானுந்து முக்கியாக நூற்றாண்டு

காரணம் முக்கியாக நூற்றாண்டு

தானுந்து பல்லியல்களின் தானுந்து நூற்றாண்டு காரணம் முக்கியாக நூற்றாண்டுக்கான:

- நூற்றாண்டு காரணம் முக்கியாக நூற்றாண்டு
- நூற்றாண்டு காரணம் முக்கியாக நூற்றாண்டு
- நூற்றாண்டு காரணம் முக்கியாக நூற்றாண்டு
- நூற்றாண்டு காரணம் முக்கியாக நூற்றாண்டு

பின்னர் காரணம் முக்கியாக நூற்றாண்டு

- பின்னர் காரணம் முக்கியாக நூற்றாண்டு
- பின்னர் காரணம் முக்கியாக நூற்றாண்டு
- பின்னர் காரணம் முக்கியாக நூற்றாண்டு
- பின்னர் காரணம் முக்கியாக நூற்றாண்டு
• நெவரும் கொண்டாடல் தேசியமுனையில் மருந்தாக

மைச்சர் பணபந்தை நெவரும் கொண்டாடல் ஆராய்ச்சிகள்

• துருத்தல்
• நெவரும் கொண்டாடல் கருத்துறவு
• மும்பை
• நூற்றாண்டு முதல்
• தானொன்றி
• புத்தகங்கள்

மைச்சர் பணபந்தை நெவரும் கொண்டாடல் எல்லாம் பிள்ளா விளக்கங்கள்

• துருத்தல் நெவரும் கொண்டாடல் கருத்துறவு
• புத்தகங்கள்

தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்

காரணங்கள்

• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்

தேசிய விளக்க நெவரும் கொண்டாடல் ஆராய்ச்சிகள்

• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெ்வரும் கொண்டாடல் பார்வைகள்
• தேசிய விளக்க நெவரும் கொண்டாடல் பார்வைகள்
கலவ்யூர் மாணவரின் முதல்நிலை அற்புதம் வழிபாடு

уча வருடத்தில் முதல் ஆண்டு வரையாக ஆதாரம் செய்யப்படும்

ஆனால் 'ஒன்று' வருடத்தில் உலகின், அனுமதிக்கப்பட்ட நூறு முறையும் பாதுகாப்புக் பகுதியைப் பாதுகாப்பு பாதுகாப்பு

புது சமயத்தில் இருந்து பாதுகாப்பு, பாதுகாப்பு பாதுகாப்பு பாதுகாப்பு

புது சமயத்தில் இருந்து பாதுகாப்பு

ஆண்டுக்கு ஆண்டு

மாணவருக்கு ஆண்டு

மாணவருக்கு மாணவருக்கு

இந்த அமைவு கொண்டு மாணவர் நூறு முறையும்

இந்த அமைவு கொண்டு மாணவர் நூறு முறையும் மாணவர் நூறு முறையும்...
குறிப்பிட்டு விளக்கம்

நூற்றாண்டு பல்வேறு பகுதிகளுக்கு எழுதப்பட்டுள்ள பல்வேறு நூற்றாண்டு குறிப்பிட்டு விளக்கம்

நூற்றாண்டு பல்வேறு பகுதிகளுக்கு எழுதப்பட்டுள்ள பல்வேறு நூற்றாண்டு குறிப்பிட்டு விளக்கம்

• குறிப்பிட்டு விளக்கம், பல்வேறு பகுதிகளுக்கு
• நூற்றாண்டு பல்வேறு பகுதிகளுக்கு எழுதப்பட்டுள்ள பல்வேறு நூற்றாண்டு குறிப்பிட்டு விளக்கம்

குறிப்பிட்டு விளக்கம், பல்வேறு பகுதிகளுக்கு எழுதப்பட்டுள்ள பல்வேறு நூற்றாண்டு குறிப்பிட்டு விளக்கம்

• அறிவு
• நூற்றாண்டு பல்வேறு பகுதிகளுக்கு எழுதப்பட்டுள்ள பல்வேறு நூற்றாண்டு
• நூற்றாண்டு பல்வேறு பகுதிகளுக்கு எழுதப்பட்டுள்ள பல்வேறு நூற்றாண்டு

குறிப்பிட்டு விளக்கம், பல்வேறு பகுதிகளுக்கு எழுதப்பட்டுள்ள பல்வேறு நூற்றாண்டு

• குறிப்பிட்டு விளக்கம், பல்வேறு பகுதிகளுக்கு
• சுருக்கப்பட்டுள்ள பல்வேறு பகுதிகளுக்கு
• குறிப்பிட்டு விளக்கம், பல்வேறு பகுதிகளுக்கு எழுதப்பட்டுள்ள பல்வேறு நூற்றாண்டு
• நூற்றாண்டு பல்வேறு பகுதிகளுக்கு எழுதப்பட்டுள்ள பல்வேறு நூற்றாண்டு குறிப்பிட்டு விளக்கம்

சு. பார்க்கப்பட்டுக் குறிப்பிட்டு விளக்கம்;

• குறிப்பிட்டு விளக்கம்
• நீள பக்க வர்ச்சியல்கள்
• கட்டுப்பாடுகள்
• கல்லூரிகள் (இணைப்பு)
  0 எதிர்ப்பு கட்டுப்பாடுகள் குற்றமாக தானியமாக கொண்டு வரும் குற்றாளர்கள் மற்றும் சிதைச்சின்றியால்
  0 குற்றப்படுத்தாத குற்றாளர்கள் மற்றும் பரிசுக்கருங்கள்

சிறந்த உறவுகளையுடைய குற்றாளர் பிராந்தியக்கள்

➤ குற்றாளர் பிராந்திய ஒன்றாக இணைப்பது
➤ குற்றாளர் பிராந்திய சொற்றொன்று
➤ குற்றாளர் பிராந்திய சொற்றொன்று அந்தந்தற்குறிகள்
வேளுநிலை பாராளக்குறிக்கை ஒப்பந்தக்கட்டு குறிப்பிட்டுள்ள வேளுநிலை வளர்ச்சி பயிற்சிக்குறிக்கை

- நேர்வாய்வுக்குறிக்கை
- கையேற்றதிறனுறை
- நேர்வாய்வு புழக்க
- புதுக்குறிக்கை

ஆர்வு விளக்கம்

ஆர்வு விளக்கம் அவ்வொழிக்குறிக்கை பிறந்தவுடன் வளர்ச்சிக்குறிக்கை அடையும். இது வேளுநிலை வளர்ச்சி பயிற்சிக்குறிக்கை வரிசையில் விளக்கம் ஒப்பந்தக்கட்டு அடையும்.

ஆர்வு விளக்கம் அவ்வொழிக்குறிக்கை கலன்சூட்டுகள்

- தோலை நேர்வாய்வு
- அச்சுருக்கு கையேற்ற பாதுகாப்பு ஒப்பந்தக்கட்டு
- கையேற்றதிறனுறை
- வளர்ச்சி பயிற்சி குறிப்பிட்டு கையேற்றதிறனுறை
- அவ்வொழிக்குறிக்கை வளர்ச்சி பயிற்சி

ஆர்வு விளக்கம் குறிப்பிட்டு செயல்பாடு

- வேளுநிலை புலவரின் குறிப்பிட்டு விளக்கத்தில் வேளுநிலை பிரிவு குறிப்பிட்டு
- வேளுநிலை புரின் குறிப்பிட்டு நூற்றாண் விளக்கத்தில் வேளுநிலை பிரிவு குறிப்பிட்டு
- கையேற்றதிறனுறை பயிற்சிக் குறிப்பிட்டு கையேற்றதிறனுறை
- வேளுநிலை புரின் பிரிவு குறிப்பிட்டு கையேற்றதிறனுறை
புனிதத்தான் வலம் விளகியது தீரம் துணையுக்கு புத்தகாந்தம் அருகில்

புத்தகாந்தம் வழங்குகின்ற

- செயல் புது
- வாழ்கின்ற புது
- வாழ்ந்த புது

புத்தகாந்தத்தில் அதிகாரிகள்

- காய்ந்த நூறு
- முன்னெடுத்தல்
- வேர்பொருள்
- போன்றவை
- மாற்றமில்லை
- அச்சாத்தியம்
- சம்பந்தம்
- பற்றி பொருள்
- துரை விளக்கத் தொடர்பான குறிப்பிட்டு அபிப்த

புத்தகாந்தத்துக்குப் பதிவு வழங்குகின்ற

- காற்றான புத்தகாந்தம் புத்தகவித்தான்
- வன்ன பற்றி குறிப்பிட்டு வாழ்வை வேர்பொருள் குறிப்பிட்டுக்கொள்ளும்
- புத்தகாந்தம் காற்றானது அவில
- வாழ்கின்ற வாழ்கின்ற முறையாக காரையாக வாழ்வை வேர்பொருள் குறிப்பிட்டு
- வேர்பொருள் குறிப்பிட்டு வாழ்கின்ற முறையாக வேர்பொருள் குறிப்பிட்டு
- வாழ்கின்ற வாழ்கின்ற முறையாக வேர்பொருள் குறிப்பிட்டு
- வாழ்கின்ற வாழ்கின்ற முறையாக வேர்பொருள் குறிப்பிட்டு
- வாழ்கின்ற வாழ்கின்ற முறையாக வேர்பொருள் குறிப்பிட்டு

புத்தகாந்தத்துக்கு வழங்கு பொருள் விருதுகள்

- இல்லாத வேலை
• அப்பருட்கள் தக்கவரும்
• பெயரின் மேல்
• குருட்களைப் புழக்கம்

கலந்த செயல்கள்

துறையிலான பணிபுரிக்கவும் கடை செயல்வாய்ப்புகளை கருத்தெடுக்கவும்
• நாளின் உருவநிலையான் பேராசியல் பார்வைகளை குறிப்பிட்டு செய்வது
• அவசைகள் தொடர்பாவிகள் கலந்தனை பிறப்புமுனை
• பாதுகாப்பு அங்கட்டான் கலந்தனை முனைப்பற்று
• காரணில் சுமார் பொழுது விளைந்து கலந்தனை குறிப்பிட்டு

கலந்த செயல்களை துறையிலான பணிபுரிக்கவும்
• கலந்தனை கலந்தவுக்கு அசைக்கு
• பேராசியல் பார்வை போன்ற நோக்குக்கு முனைப்பற்று
• கலந்தனை உருவநிலையான் பேராசியல் பார்வை குறிப்பிட்டு
• தன்னால் இருக்கும் பொன்று கலந்தவுக்கு முனைப்பற்று

கலந்த பிரிவுகளைக் குறிப்பிட்டு விளைந்து
• நாளின் உருவநிலையான் துறையை துறையிலான பணியில்
• கலந்துகொண்டு கூட்டு
• குழல் பார்வைகு துறையை

துறையிலான பணிபுரிக்கவும் கடை செயல்வாய்ப்புகளை கற்று கூட்டு
• குறிப்பிட்டு
• பொடி கூட்டு
• குழல் கூட்டு
கலையில் கருத்துக்கேற்ற விளக்கம்

- அதன் அருருவத்தை மக்களுக்கு உள்ளேக் கொண்டு வைக்கலாம்
- தொல்லியல் பொருளில் பொருளில் பலகை மற்றும் அதற்கு அடையாது பலகிப்பதை
- இணைப்பு மற்றும் அறிக்கை
- கலையில் ஏற்றும் பிரிவான

கலம் பூமியில் காணாமல்லாம் காலத்துக்கு முன்னிலைகள் அறிமுகாக்கவும்

- தனியார் தொற்றுக்கேற்ற அளவுகள் ஒப்பிட்டும் பதிவு
- பதிலிடி அளிக்கவும்
- கூட்டம் அளிக்கவும்
- அதே அளிக்கவும்
- பதிலிடிடும்

கலம் பூமியில் பிரிவானானால் தொல்லியல் செயல்தொடர்த்து

- தொல்லியல் பொருளில்
- பொருளில் பொருளில்
- கலையில் பொருளில்
“காக கதா ககந்தர கனவித்

சிவுக்காதைந்த பொன்று பொருநிலாயம் பல்பக்கோன்ற கொட்டைகளில்

சம்பவம் முன்னேற்றப்பட்டு வரும்போது அருகிலுள்ள கொட்டைகளில்

சுற்றேசோ பல்பக்கோன்ற கொட்டைகளில் கவலையும் கவலையும் முதக்குகை

சிறப்பு செய்திகளிலிருந்து வருகையை பக்தியாளர்கள்
APPENDIX I

AREA MAP
CHAPTER-I

INTRODUCTION

“If I were to be born again, I would like to be born in the family of a scavenger so that I may relieve them of the inhuman unhealthy and hateful practice of carrying head loads of night soil.”

-Mahathma Gandhiji

From the above sentences clearly exemplifies that Gandhiji had a strong intention in abolishes the unhealthy practices among sanitary workers. But after completing these many years, still the same unhealthy practices are being followed by them. Health is the right of all human beings. The message became clear that while disease remains an economic liability, health is an individual, national and even an international asset, and a key to socio economic development, higher standard of living and an improved quality of life. Health is not mainly an issue of doctors, social services and hospitals. It is an issue of social justice.

In recognition of this fact, the developing countries revised their developmental preferences and started paying priority attention to health and health related sectors in an attempt to reduce the developmental lag between them and the developed countries of the world.

Health has been described as “the condition of being sound in body, mind and spirit.” All the dimensions of health relate to these basic elements of human personality such as body, mind and soul or spirit. Health is multi faceted entity possessing physical, mental, social, moral and spiritual dimensions.
Health is determined by mainly three factors such as personal determinants, environmental determinants and government determinants’. Firstly the personal determinants include genetic endowment of the individual, awareness of the importance of health, a disciplined way of life that is following healthy life style and the philosophy of life based on simple living and high thinking. Secondly environmental determinants includes healthy family environment, healthy physical environment, healthy social environment and healthy occupational environment. Finally the governmental determinants includes socio-economic development, appropriate health care, and political commitment.

In that all determinants health, occupation play vital role in determining the health. The occupations placing the vital role to providing social dignity and respect to the individuals. Certain amount of physical and mental well being is determined by the individuals occupation. Some kind of diseases can be aroused due to the individuals work.

Occupational health represents a dynamic equilibrium between the worker and his occupational environment. The modern definition of Occupational Health (I LO and WHO) is “The promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations – total health of all”.

In all occupations the working environment will always present the risk of workers over exposure to various chemicals, metals and solvents. Patterns or identifiable trends of occupational health problems have been associated with the type of work as well as where the work is performed (i.e., indoors or outdoors).
The primary hazards associated with indoor work are poor or inadequate physical and work organization ergonomics, inadequate indoor air quality or heating, ventilation and air conditioning systems, chemicals, asbestos, workplace violence and electromagnetic fields (low-level radiation).

Outdoor work environment occupational hazards include exposure to chemicals, lead, hazardous and solid waste, environmental conditions, inadequate ergonomics, motor vehicles, electrical and mechanical equipment and electromagnetic field emissions. Exposure to chemicals occurs in several identified occupational categories including waste disposal operations, water and sanitation services, sewage treatment, domestic waste collection, postal collection and technician jobs in telecommunications.

Hazardous work environments are common to waste disposal operations, water and sanitation services, sewage treatment and domestic waste collection. Occupational safety and health hazards include microbiological and medical waste, chemicals, inadequate ergonomics, motor vehicles, confined spaces and electrical and mechanical equipment. Identified health symptoms and illnesses include upper respiratory, dermatological, upper and lower extremity musculoskeletal, cardiovascular, central nervous system and visual problems. Additional concerns include lacerations, heat exhaustion and stroke.

The waste creates various work related diseases to the persons who were generate, handle, package, store, transport, treat and dispose the wastes. These wastes will leads to the environmental pollution and the transmit the communicable diseases, including cholera, TB etc.,
According to the Encyclopedia of Occupational Health and Safety, report in 1991 the sanitary workers are suffer from various kind of occupational diseases such as occupational lung diseases and upper respiratory tract infections, allergic problems especially of the skin like contact dermatitis, neurological problems like headache, dizziness and numbness, eye problems like burning, watering and redness, gastrointestinal problems like diarrhoea and parasitic infections and musculoskeletal problems like fatigue and weakness and backache.

SIGNIFICANCE AND NEED FOR THE STUDY

“Save and beautify your life and family with a little alertness and attentiveness”

As a developing country India has faced with so many public health problems like communicable diseases, malnutrition, poor environmental sanitation and inadequate medical care. However, globalization and rapid industrial growth in the last few years has resulted in emergence of occupational health related issues. There are lot of agencies like central labour institute, national institute of occupational health, industrial toxicology research centre, are working on many kind of research activities regarding, Pesticide poisoning, Silica related diseases and Musculoskeletal disorders. Still much more is to be done for improving the occupational health research.

The working populations being largely illiterate are unaware of the hazards associated with their occupation. It leads to poor implementation of control measures and enforcement of laws. Thus, awareness and health education programme should be carried out for the workers. Health education programmes not only focus on the
occupational diseases but also includes advice on smoking, avoidance of drinking, eating and smoking at workplace etc.

According to the WHO report on 2011, Worldwide prevalence of job-related accidents and illness is more than 2 million annually, and this number appears to be raising because of industrialization in developing countries.

The statistics for the overall incidence or prevalence of occupational disease and injuries for the country is not available. According to the study findings of the Leigh et.al, total annual incidence of occupational disease between 924,700 and 1,902,300 and 121,000 deaths in India.

In India an estimated 1.2 million sanitary workers are involved in the sanitation of our surroundings. Apart from the social discrimination that these workers face, they are exposed to so many health hazards due to their occupation. These health problems include exposure to harmful gases like methane and hydrogen sulphide, cardiovascular diseases, musculoskeletal problems such as inter vertebral disc herniation, osteo arthritic changes and certain infections like hepatitis, leptospirosis and helicobacter, dermatological problems, respiratory problems and altered pulmonary function parameters. All over India 800 sewage work related accidents are reported annually.

There is no data about the occupational health and safety of sanitary workers; most of them are lower socio economic peoples. According to the official records of Chennai Metro water confirms that 17 sanitary worker deaths since 2003. The all over India number of deaths of sewage workers would run into the thousands. Workers who manage to survive plunging bare-bodied into clogged sanitary workers suffered
by several diseases including TB. But if the statistics of earlier years are taken into account, as also the number of sanitary workers from private agencies who have died, the figure would be much higher. And it would run into several thousand if you consider the country as a whole.

Keeping the above facts in view, the researcher took up the task to assess the knowledge and attitude of sanitary workers. During her community posting the researcher noticed that many of the sanitary worker failed to wear the personal protective equipments. The researcher observed that most of the sanitary workers using tobacco, smoking cigarettes immediately after handling the waste materials without washing their hands, and also they are consumed alcohol for tolerating the bad odor arises from the sewage particles. Even though there is numerous studies regarding occupational health effects of sanitation workers. There is very less studies regarding the prevention programme of occupational health hazards of sanitation workers. Hence, the researcher decides to provide a planned teaching programme on prevention of occupational health hazards. So the present study was planned to assess the knowledge and attitude of sanitary workers in response to planned teaching programme.

**STATEMENT OF THE PROBLEM**

A Quasi experimental study to evaluate the effectiveness of planned teaching programme on knowledge and attitude of sanitary workers regarding prevention of occupational health hazards in selected areas at Madurai – 2011.
OBJECTIVES

1. To assess the prevalence of signs and occupational diseases among sanitary workers.

2. To assess the existing knowledge and attitude of sanitary workers on occupational health hazards.

3. To evaluate the effectiveness of planned teaching program on knowledge and attitude of sanitary workers on prevention of occupational health hazards.

4. To find out the relationship between post test knowledge and attitude of sanitary workers on prevention of occupational health hazards.

5. To determine the association between post test level knowledge and attitude with selected demographic variables.

HYPOTHESIS

H1  There will be a significant difference in the pre test and post test knowledge regarding prevention of occupational health hazards.

H2  There will be a significant difference in the pre test and post test attitude regarding prevention of occupational health hazards.

H3  There will be a significant relationship between knowledge and attitude regarding prevention of occupational health hazards.

H4  There will be a significant association between the post test knowledge with selected demographic variables.

H5  There will be significant association between the post test attitude with selected demographic variables.
OPERATIONAL DEFINITION:

**Effectiveness**

In this study it refers to the outcome of the teaching programme measured in terms of knowledge and attitude scores gained.

**Planned teaching program**

In this study it refers to a well planned instruction with a use of audio-visual aids helps to internalize the importance of prevention and care of occupational diseases.

**Knowledge**

Knowledge refers to the level of understanding on prevention of occupational health hazards as expressed through oral response from the sanitary workers.

**Attitude**

This refers to way of thinking, beliefs, and feelings regarding occupational health hazards as expressed in the form of statements as assessed by a rating scale.

**Sanitary worker**

A person, employed as by a municipality to collect and dispose of garbage or a person who is working in the management of waste water containing organic waste of human/animal or both.

**Occupational health hazards**

Occupational health hazards are refers to the diseases arising out of or in the course of occupation prevalent in that locality. In this study the common health problems existing among sanitary workers are respiratory diseases, skin diseases, gastro intestinal problems, eye diseases and musculo skeletal problems.
ASSUMPTIONS

1. The knowledge and attitude of the sanitary workers will influence their practices of prevention of occupational health hazards.
2. Demographic variables of sanitary workers may influence the knowledge attitude on prevention of occupational health hazards.
3. Health education at regular intervals will improve their knowledge and positive attitude on prevention of occupational health hazards among sanitary workers.
4. The verbal response of sanitary workers will exhibit their level knowledge and attitude on prevention of occupational health hazards.

DELIMITATION

The data will entirely be dependent on the verbalized responses of the respondents.

This study includes sanitary workers who are familiar with Tamil language.

This study is confined to selected geographical areas at Madurai.

PROJECTED OUTCOME:

The study findings would help to identify the knowledge and attitude of sanitary workers regarding prevention of occupational health hazards not only study group but also such population at large. The findings of the demographic variables would help to identify the factors which affect the level of knowledge and attitude of sanitary workers regarding prevention of occupational health hazards. The effective of planned teaching programme would enable the sanitary workers to accept and follow the precautions.
CHAPTER II

REVIEW OF LITERATURE

Review of literature is a broad comprehensive in depth, systematic and critical review of scholarly publications, unpublished scholarly printed materials, audio-visual materials and personal communication. A literature review is a description and analysis of the literature relevant to a particular field or topic. It gives an overview of what has been said, who the key writers are, what are the prevailing theories and hypotheses, what questions are being asked, and what methods and methodologies are appropriate and useful. As such, it is not in itself primary research, rather it reports on findings of others.

Extensive review of research and non research literature being done to broaden the understanding and to gain insight in to the selected problems for the study. Along with the review of books and journals, and attempt was also made to review literature through internet research and non research literature.

This chapter deals with selected studies ,which are related to objectives of the proposed study, which helped the investigator to develop deeper insight in to the problem and gain information on what has been done in past. Review of literature consists of following headings

1. Studies on occupational health hazards among sanitary workers.
2. Studies on effectiveness of planned teaching programme - In general
3. Studies on knowledge and attitude of sanitary workers.
1. STUDIES ON OCCUPATIONAL HEALTH HAZARDS AMONG SANITARY WORKERS

Occupational Health and Safety Centre, (1988) had ruled out a study in Mumbai to assess the occupational health hazards and working conditions of sewage workers from the Main Sewer Department of the Mumbai Corporation. 200 samples were taken for this study and the sample selection method for data collection is simple convenient sampling. The study was conducted to assess the morbidity profile and their prevalence among sewage workers in Mumbai city. It revealed that 60% of the workers had complaints of shortness of breath and persistent cough. 30% of the workers complained of itching all over the body, especially hands and feet. 53% of the workers had burning, redness of eyes and photophobia. 44% of the workers complained of diminished vision.

Schachter et. al, (1993) had done a study assess the respiratory symptoms and ventilatory capacity of sewage workers in Croatia city. Totally 72 peoples were participated in this study. The workers were studied according to their work stations. 26 workers were worked in closed channels and 31 workers were in drainage and 17 sewage workers from other stations. The results shows that the prevalence of chronic respiratory symptoms was higher in closed channel workers than controls, particularly for chronic cough such as 41.9% vs. 14.3%, Chronic phlegm was 38.7% vs. 14.3%, Chronic bronchitis was 32.3% vs. 8.6% and chest tightness was 29.0% vs. 0%. In the group of sewage workers, there was a high prevalence of acute symptoms which developing during the work shift, being particularly pronounced for eye irritation 16.1- 26.9%, dyspnea 16.1-23.1%, dizziness 6.5-23.1%, throat burning 9.7-19.2% and skin irritation 22.6-26.9%.
L. Friis, et. al, (1998) had done a cross-sectional study on abdominal symptoms among sewage workers. The objective of study was to investigate the prevalence of abdominal symptoms and the abdominal medical history among sewage workers. The aim of the study was to test an association of gastro intestinal symptom or gastro intestinal disease and sewage work. 156 male sewage workers from 11 Swedish municipalities were involved in this study. The results shows that There was no significant difference in the three months for prevalence of diarrhea, 95% persons having dyspepsia and 95% are affected by irritable bowel syndrome and 95% the sewage workers were affected more often by peptic ulcers during their present jobs than the referents, although the increased risk was not significant, adjusted odds ratio was 95% and the class interval was 6.1. The odds ratios were adjusted for age, use of tobacco products and alcohol consumption. The conclusion of this study was that sewage workers are less affected by nausea than comparable referents.

Smit et. al, (2005) conducted a study on endotoxin exposure and symptoms in wastewater treatment workers. The aim of the study was to investigate work related problems among these workers. 468 workers from 67 sewage treatment plants were participated in this study. Self-reported exposure data were investigated for the entire study population. Endotoxin exposure ranged from 0.6 to 2093 endotoxin units EU/m3, the geometric mean exposure was low 27 EU/m3. Factor analysis yielded three clusters of correlated symptoms, lower respiratory and skin symptoms, flu-like and systemic symptoms, and upper respiratory symptoms. Symptoms appeared to be more prevalent in workers exposed to endotoxin levels higher than 50 EU/m3. A significant dose-response relationship was found for lower respiratory and skin symptoms and flu-like and systemic symptoms (P<0.05). Wastewater treatment workers reported a wide range of symptoms that may be work-related. Microbial exposures such as endotoxin seem to play a causal role.
Wim van Hooste et. al, (2008) conducted study on Work-related Helicobacter pylorus infection among sewage workers in municipal wastewater treatment plants in Belgium. Objectives of the study was to assess the sero prevalence of Helico bactor pylorus infection in Belgian sewage workers at municipality, and to assess whether sewage exposure was an important risk factor for Helico bactor pylorus and is there any possible association with gastrointestinal symptoms. Study was conducted among 317 employees. Information about demographic variables, possible Helico bactor pylorus risk factors, working history, and history of current gastrointestinal symptoms during last 3 months was obtained by a questionnaire. The presence of Helico bactor pylorus immune globulin was investigated with an Enzyme linked sorbent assay. The results were compared with those of 250 employees of a pharmaceutical company. Results shows that the prevalence of antibodies against among sewage workers was 16.7% compared to 13.6% among the control group. No significant associations were found between the Helico bactor pylorus status and gastrointestinal symptoms, occupational exposures in different tasks, nor with hygienic practices.

Purushottam, et. al, (2010) conducted a study on Morbidity Profile of Sewage Workers in Mumbai City. This was a cross sectional epidemiological. There were 150 sewage workers in Mumbai Municipal Corporation were involved in this study. The following results were obtained. On clinical examination, The eye problems 70.6% musculo skeletal problems 68.0% workers. 58.0% gastro intestinal problems, 52.6% respiratory problems. 52 % skin disorders, Injuries due to work 26.0% and minor injuries 70.6%. were detected. Thus, as the duration of service increases, ocular morbidity also increased \( p < 0.001 \). restrictive 20.2%. It was seen that as deterioration in lung function was found to be associated with increased duration of services \( p < \)
This proportion increased steadily with each age group (23.3% in 35 to 39 yrs, to 39.1% in 40 to 45 yrs) increasing to 60.0% in 45 to 49 yrs to reach a maximum 65.2% in 50 to 54 yrs aged workers (p > 0.05). In this study, almost all sewage workers 146 (97.3%) were addicted to one or the other addiction like tobacco, alcohol and smoking. None of the workers awareness regarding diseases caused due to sewage like lung diseases, worm infestation, leptospirosis and other major sewage related diseases.

2. STUDIES ON EFFECTIVENESS OF PLANNED TEACHING PROGRAMME

Suneetha and Rao Anitha .C (2005) had assessed the Effectiveness of structured teaching programme on cancer cervix regarding the knowledge and attitude among married women residing in selected urban and rural areas of Karnataka. Research design used in this study was quasi-experimental design with one group pre test-post test. The multistage sampling technique was used. Structured Interview schedule using demographic,knowledge questionnaire and attitude scale was used for data collection. The findings of the study reveals that Most of married women 84% in urban area, 76% in rural had moderate knowledge. The pretest attitude score for all the married women 100% in urban, 92% in rural was favorable. The study showed that there was significant improvement between pretest and posttest knowledge, attitude score. There was significant association between knowledge on cancer cervix, attitude in urban, rural and selected demographic variables. The study concluded that structured teaching programme is more effective in urban than rural area in improving the knowledge.
R. Deepa, (2007) had done the study to evaluate the effectiveness of health education on prevention of swine flu among early adults in Sri Ramakrishna Arts and Science College at Coimbatore. It was the quasi experimental study and the research design used in this study was one group pre test –post test design. The tool or data collection were demographic questionnaire and knowledge questionnaire. The health education booklet was developed by the investigator. The descriptive statistics and inferential statistics were used for data analysis. The findings revealed that education was an effective to improve the knowledge level of the early adults about swine flu and its prevention.

Habibulla N. syed, (2008) conducted a quasi-experimental study to assess the effectiveness of structured teaching program on prevention of occupational exposure to blood borne pathogens and also the knowledge, attitude as well as incidence of needle stick injury among student nurses. 106 student nurses were participated in this study. Self- administered knowledge questionnaire and an observation checklist to assess the attitude regarding hand washing, wearing gloves and handling needles was used for data collection. The results shows that use of gloves was rare while performing activities involving high risk of exposure to blood and body fluids. The experimental group reported a total of 18 injuries whereas the control group reported 24% injuries occurred while giving injections. Most common source of sharp injury were Intravenous needles 44% and syringes 32%. The study shows that structured training programme improved knowledge and attitude and reduced incidence of needle stick injuries in students of experimental group than control group.
3. STUDIES ON KNOWLEDGE AND ATTITUDE OF SANITARY WORKERS

Mohammed Iqbal, (2002) conducted a cross sectional, study to assess the knowledge, attitude and practice of hospital sanitary workers about waste disposal. 68 sanitary workers were participated in this study. Simple random technique was used to select the samples from the urban areas of Karachi. The study inferred that knowledge of all 100% sanitary workers about hospital waste management was inadequate. 38% of workers had positive attitude and the practice of was only 2%. This study further revealed that 24.5% health-care facilities disposed infectious and non-infectious waste into public dustbins, 73.7% sanitary workers carry waste in to open bins for disposal. 67.9% were not using personal protective equipment.

Jyoti shrivastava et. al, (2005) conducted a study on effectiveness of planned teaching programme among fourth class workers in Choithram Hospital and Research Centre at Indore. The objectives of the study were to find out the level of knowledge of fourth class workers regarding ill-effects of tobacco consumption, practice of tobacco consumption and to evaluate the effectiveness of planned teaching program on creating awareness about the ill effects of tobacco consumption. 100 fourth class workers were involved in this study. Convenient sampling method was used select the samples. Research design used in this study was one group pre test post test design. The findings of the study shows that the mean post-test knowledge score was 23.42 and the mean pre-test knowledge score was 15.89, so the post test knowledge mean score higher than the pre test knowledge mean score. The results also shows that totally 60.86% participants were wished to stop tobacco consumption, among that 47.81% were males and 13.04% were females and Remaining 39.13% samples 34.78% male and 4.34% female, were not serious to stop tobacco consumption. Among that 34.78% were male and 4.34% were female.
Madiha Syed et. al, (2008) conducted a cross sectional survey on Knowledge, attitudes and practices regarding dengue fever among adults of high and low socioeconomic groups. 440 adults were participated in this study. Structured interview was used for data collection. The division of higher and lower socio economic group was divided on their income and locality. Findings of the study was about 35% of participants had adequate knowledge about dengue fever and its causative agent. Knowledge had significant associations with education (p= 0.004) and socioeconomic status (p=0.02). The high socio economic participants following better preventive practices. The low socio economic class following poor preventive practices. The high socio economic class had adequate knowledge than the low socio economic group. Hence, a greater focus should be needed for the low socioeconomic areas in future health campaigns.

Ramya. M, (2009) conducted a study to assess the knowledge, attitude and practice of sanitary workers about infection control measures. Descriptive research approach and one group pre test- post test design was used for this study. Sanitary workers of Bangalore municipality were participated in this study. Convenient sampling technique was used to select the samples. The study results shows that most of all sanitary workers 50 (100%) were having inadequate knowledge regarding infection control measures. 37(74%) had negative attitude and 13(26%) had neutral attitude regarding infection control measures. 44(88%) were not practicing infection control measures.
CONCEPTUAL FRAMEWORK

A theory is a framework initiated for some purpose. A theory is a set of interrelated constructs, definitions, propositions that present a systemic view of phenomena by specifying relations among variables with purpose of explaining and predicting the phenomena. Conceptual framework for present study is Lewins Beck health belief model. Health belief model focuses the relationship between the person’s belief and behavior. Use of this model is based on person’s perception of the susceptibility to an illness. This model helps to understand the factors influencing client’ perception, beliefs and behavior to plan the most effective care.

The first component of this model represents the individual’s perception of susceptibility to an illness and the second component indicates individual’s perception is influenced and modified by demographic and socio psychological variables, perceived threats of the illness and cues to action. The Third component is the likelihood that a person will take preventive action-is the persons perception of the benefits of taking action.

The conceptual framework for the present investigation proposes that a sanitary worker may seek knowledge regarding occupational health hazards. When he or she perceives that (a) type of various diseases due to occupation. Mainly respiratory diseases, eye diseases, skin diseases, gastro intestinal and musculoskeletal disorders,(b) the causes involved in the occupational diseases,(c) the most common signs and symptoms of occupational diseases,(d) the primary, secondary and tertiary levels of prevention of occupational diseases, (e) the measures to relieve work pressure ,(f) Methods to avoid bad odour from the environment such as smoking alcoholism and other kind of substance abuse.
Social demographic variables and structural variables (modifying factors) may also condition a sanitary workers perception of developing occupational diseases to their selves and benefits and barriers to structured teaching programme. The socio demographic variables (background variables) studied are Age, sex, educational status, Number of working hours, working experience, marital status, immunization status. The knowledge of sanitary worker regarding occupational health hazards on various aspects were considered to be the structural variable. The aspects of structured teaching programme include commonly affecting occupational diseases of the sanitary workers, causes, signs and symptoms, prevention and complications. The attitude of sanitary workers regarding occupational health diseases were considered to be the structural variable.

The stimulus called ‘cue to action’ is also necessary to motivate mother to have adequate knowledge and positive attitude on occupational health hazards. In this structured teaching programme was used as a stimulus to trigger the awareness sanitary workers regarding occupational health hazards.

The interaction of individual’s perception with the modifying factors, structural factors and the cues, would result in likelihood of action after weighing the benefits and barriers. The likelihood of action in this study will be using personal protective equipments, maintain proper personal hygiene including hand hygiene, periodical health check up, avoidance of smoking and alcoholism, following well balanced food habits, early detection and treatment of occupational diseases, accepting needed immunization, reduce the intake of tea and other beverages during work time.
FIGURE 1 - CONCEPTUAL FRAME WORK

INDIVIDUAL PERCEPTION

PERCEPTION OF SANITATION WORKERS
- Importance of occupational health
- Common occupational diseases due to sanitary work
- Susceptibility to occupational diseases
- Need for wearing personal protective equipments
- Benefits of having knowledge on occupational health hazards
- Barriers of having knowledge on occupational health hazards

ASPECTS OF CARE
- Preventive
- Promotive
- Curative
- Rehabilitative

MODIFYING FACTOR

SANITATION WORKERS BACKGROUND VARIABLES
- Age, sex, educational status, No.of, working hours, working experience, marital status, immunization status.

STRUCTURAL VARIABLES
- Knowledge on occupational health hazards
- Attitude on occupational health hazards

CUES TO ACTION
- Planned teaching program on prevention of occupational disdiseases

NURSE EDUCATORS APPROACH
- Mass health education, Individual teaching, Group health education, audio approach, video approach

LIKELIHOOD OF ACTION

Perceived benefits of having knowledge on occupational health hazards of sanitation workers minus perceived barriers of having knowledge on occupational health hazards

- Using personal protective equipments
- Maintaining proper personal hygiene including hand hygiene
- Seeking Periodical health check up
- Avoidance of smoking and alcoholism
- Following well balanced food habits
- Early detection and treatment of occupational diseases
- Accepting needed immunization
- Reduce the intake of tea and other beverages during work time.

LEWIN AND BECKERS (1975) HEALTH AND BELIEF MODEL
CHAPTER III

METHODOLOGY

This chapter deals with includes research approach, research design, setting of the study, population, sample, and sample size, sampling technique, Instrument and plan for data analysis.

Research approach

The research approach used for this present study was quasi experimental approach.

Research Design

Quasi experimental design was adopted with one group pre-test post-test design.

Setting of the study

The study was conducted in Madurai Corporation, north zone which is situated at a distance of 5 kilometer from C.S.I Jeyaraj Annapakiam college of Nursing. The Sanitary workers who were working in the Madurai Corporation north zone were involved in the study. The setting was selected based on acquaintance of the investigator with the area, feasibility of conducting study, availability of the sample, workers participation and proximity of the setting to the investigator.

POPULATION:

Target

The target population was all the sanitary workers those who were working in Madurai Corporation.
Accessible

The accessible population was the sanitary workers those who are working in North zone of Madurai Corporation.

SAMPLING TECHNIQUE

In this study, purposive sampling technique was used to select the samples. The list of sanitary workers were obtained from the health inspector of Madurai corporation. Based on the Inclusion and exclusion criteria 50 sanitary workers were selected through the purposive sampling technique.

SAMPLE

Sanitary workers of north zone of Madurai Corporation were selected as sample in this study.

SAMPLE SIZE

The study samples were the sanitary workers in Madurai Corporation. The sample size for this quasi experimental study was 50.

CRITERIA FOR SAMPLE SELECTION:

The samples were selected based on the following inclusion and exclusion criteria.

Inclusion criteria:

The sanitary workers

• those who are in the age group of 20-60 years.
• those who are working in Madurai Corporation.
• those who are having more than one year experience.
• those who are willing to be participate in the study.
Exclusion criteria:

The Sanitary workers

- those who remain chronically absent (more than 6 months).
- those who are having temporary or part time job
- those who are not understand Tamil language.

DEVELOPMENT OF AN INSTRUMENT

After the intense library search and consultation with experts a structured interview schedule was developed to measure the knowledge and attitude of sanitary workers regarding prevention of occupational health hazards in selected areas at Madurai. The structured instrument has three parts.

Part I: Demographic variables of the sanitary workers

This section consists of 11 questions about demographic profile with age, sex, educational status, marital status, religion, occupational experience in years, duration of work per day, habits of any abusing substances, training on biomedical waste management and immunization status.

Part II

A well structured questionnaire which consists of 32 multiple choice questions regarding knowledge on prevention of selected occupational health hazards. The questions were further divided into 6 parts.

The first part has 4 questions regarding general aspects of occupational health hazards

The second part has 5 questions regarding respiratory problems

Third part has 5 questions regarding skin problems
Fourth part has 9 questions regarding gastro intestinal problems

Fifth part 4 questions regarding eye problems

Sixth part has 5 questions regarding Musculoskeletal problems

Part III

It consists of Likert type attitude 5 Point scale to assess the attitude regarding occupational health hazards among sanitary workers. It consists of 12 statements, which includes 6 positive and 6 negative.

**Scoring procedures:**

**Part II:**

The correct response to items in part II and part III are respectively knowledge and attitude related to health problems of sanitary and sewage workers was given a Numerical score. The knowledge was measured in terms of knowledge score. The maximum possible score was 100. A score of 1(one) was given to every correct response and a score zero was given to every wrong or do not know responses. For the purpose of the study, the knowledge score was classified as follows,

- 0-50 %  - Inadequate
- 51-75%  - Moderate
- 76 -100%- Adequate

**Part II**

It includes statements on attitude among sanitary and workers regarding prevention of occupational health hazards. There are totally 12 statements, the items will be measured on a 5 point scale from strongly agree to strongly disagree. The maximum score for measuring attitude of sanitary and sewage workers will be 60. Attitude score will be interpreted as follows
<table>
<thead>
<tr>
<th>Positive attitude</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative attitude</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

81-100% - Positive attitude  
61 - 80% - Neutral attitude  
0 - 60% - Negative attitude

VALIDITY OF THE TOOL

The tool used for the study was validated by 13 experts including 9 nursing experts, 3 physicians, and one sociologist. The tool was evaluated for appropriateness, adequacy, relevance, completeness and comprehensiveness. Comments and suggestions were invited and appropriate modifications were made accordingly and the tool was refined and finalized after establishing the validity. Based on their opinions and valuable suggestions a few items were modified and final tool was prepared as per suggestions given by experts, the questionnaire was translated in to Tamil language based on the need of study participants.

RELIABILITY OF THE TOOL

The reliability of the tool was established by administration of the questionnaire to a sample of 5(10%) sanitary workers selected from Thirumangalam Municipality. Reliability was worked out by the test-retest method after a gap of 7 days. The Karl Pearson’s co-efficient of correlation was computed. The ‘r’ value for knowledge and attitude was 0.89. The tool was found to be reliable.
PLANNED TEACHING PROGRAMME

The investigator made planned teaching programme with a wide range of review of literature and with the experts valid suggestions. The content of planned teaching programme includes introduction, definition, types, causes, signs and symptoms and prevention of occupational health hazards. The average time taken for this teaching programme is around 45 minutes. The video used for this study was prepared with appropriate slides and the back voice was given by the investigator. The audio visual aids like video, flex, and pamphlets were used during teaching.

DATA COLLECTION PROCEDURE

Data collection is the gathering information needed to address a research problem. The data were collected among sanitary workers who have been working in the Madurai Corporation. Written permission was sought and obtained from the authorities concerned. The period of data collection was 6 weeks. Technique used is purposive sampling. Data was collected through structured interview with the structured questionnaire to assess the knowledge and attitude. At the end of the session of interview, The video aided teaching programme was shown to the sanitary workers, 8 days later post test interview was obtained. The investigator spent a lot of time in listening to the problems of sanitary worker, most of the subjects were eager to express their feelings in the way they wanted to share rather than to conform to the questionnaire. This was time consuming. All the subjects were very much co operative.

PLAN FOR DATA ANALYSIS

The data was analyzed in terms of the objectives of the study using descriptive and inferential statistics. The plan of data analysis is follows
1. Organize the data in the master data sheet.
2. Frequency and percentage distribution were used to analyze the demographic data for sanitary workers.
3. Frequency and percentage distribution were used to assess the level of knowledge and attitude of sanitary workers regarding prevention of occupational health hazards.
4. Mean, Mean percentage, standard deviation, and inferential measures were used to assess and compare the pre test and post test knowledge and attitude.

PILOT STUDY

The pilot study was conducted among five sanitary workers residing at Thirumangalam, to evaluate the effectiveness of planned teaching programme and find out the feasibility of conducting the main study. The structured questionnaire designed for the purpose was administered to five sanitary worker populations. These subjects had similar characteristics to the sample in the final study. The time taken to complete the tool was found to be satisfactory in terms of simplicity and clarity. Based on the time taken for collecting the data, arbitrary decision was taken to keep the sample size to 50. The tool used in the pilot study was found effective. The sample of pilot study was exempted from the main study.

PROTECTION OF HUMAN RIGHTS

The proposed study was conducted after the approval of dissertation committee of the college prior to the main study. Permission was obtained from the head of the department of community health nursing, C.S.I Jeyaraj Annapackiam College of Nursing Madurai. Each individual was informed about the purpose of the study and confidentially was promised and ensured. Informed consent was obtained from the participants.
CHAPTER IV
DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the data. The data were collected through structured interview questionnaire among 50 sanitary workers regarding occupational health hazards. This result was computed using descriptive and inferential statistics based on the objectives of the study. The findings of the study are presented in this chapter under the following headings.


2. Distribution of sanitary workers based on the demographic variables.

3. Distribution of pre test and post test knowledge on prevention of occupational health hazards among sanitary workers.

4. Distribution of pre test and post test attitude on prevention of occupational health hazards among sanitary workers.

5. Difference between pre and post test level of knowledge among sanitary workers.

6. Difference between pre and post test level of attitude among sanitary workers.

7. Correlation between post test level of knowledge and level of attitude on prevention of occupational health hazards among sanitary workers.

8. Association of knowledge with the selected demographic variables on prevention of occupational health hazards among sanitary workers.

9. Association of attitude with the selected demographic variables on prevention of occupational health hazards among sanitary workers.
Table 1

PREVALENCE OF SIGNS AND SYMPTOMS OF OCCUPATIONAL DISEASES BASED ON VARIOUS BODY SYSTEMS AMONG SANITARY WORKERS

<table>
<thead>
<tr>
<th>S. No</th>
<th>Body system</th>
<th>Signs and Symptoms</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Respiratory system</td>
<td>Recurrent upper respiratory tract infection</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic cough</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>2.</td>
<td>Integumentary system</td>
<td>Itching</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin rashes / allergy</td>
<td>36</td>
<td>72</td>
</tr>
<tr>
<td>3.</td>
<td>Gastro Intestinal system</td>
<td>Recurrent episodes of diarrhea</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worm infestations</td>
<td>29</td>
<td>58</td>
</tr>
<tr>
<td>4.</td>
<td>Sensory organ -eye</td>
<td>Burning sensation in the eye</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eye irritation</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>5.</td>
<td>Musculo skeletal system</td>
<td>Back pain</td>
<td>44</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pain in extremities</td>
<td>38</td>
<td>76</td>
</tr>
</tbody>
</table>

The table 1 Inferred that Majority of 50(100%) persons were suffered with recurrent episodes of upper respiratory tract infection. 42(84%) of workers having skin rashes and allergy. 44(88%) of workers having back pain.
FIGURE-2

PREVALENCE OF OCCUPATIONAL DISEASES BASED ON THEIR VARIOUS BODY SYSTEMS AMONG SANITARY WORKERS

The figure 2 reveals that Majority of all 50(100%) workers had respiratory diseases. 44(88%) workers had skin diseases. 36 (72%) workers had gastro intestinal problems. 29(58%) workers had eye problems. 44(88%) workers had Musculo skeletal problems.
Table 2.a

DISTRIBUTION OF SANITARY WORKERS BASED ON THEIR DEMOGRAPHIC VARIABLES SUCH AS AGE, SEX, EDUCATIONAL STATUS AND MARITAL STATUS

n=50

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Demographic Variables</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) 20 -30 years</td>
<td></td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>2) 30 - 40 years</td>
<td></td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>3) 40 - 50 years</td>
<td></td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>4) Above 50 years</td>
<td></td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>2. Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Male</td>
<td></td>
<td>37</td>
<td>74</td>
</tr>
<tr>
<td>2) Female</td>
<td></td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>3. Educational status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Literate</td>
<td></td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>2) Illiterate</td>
<td></td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>4. Marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Married</td>
<td></td>
<td>46</td>
<td>92</td>
</tr>
<tr>
<td>2) Unmarried</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3) Widowed</td>
<td></td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>4) Divorced</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2.a shows that among the sanitary workers majority 16 (32%) of the workers belonged to the age group of 31-40 years. 37(74%) of the workers are male. 26(52%) of the workers are illiterate. 46 (92%) of the workers are married.
Table 2.b

**DISTRIBUTION OF SANITARY WORKERS BASED ON THEIR DEMOGRAPHIC VARIABLES SUCH AS RELIGION, EXPERIENCE, NUMBER OF WORKING HOURS, BAD HABITS**

\[n=50\]

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Demographic Variables</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Hindu</td>
<td></td>
<td>48</td>
<td>92</td>
</tr>
<tr>
<td>2) Christian</td>
<td></td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3) Muslim</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4) Others</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6.</td>
<td><strong>Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) 1 – 5 years</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2) 5 – 10 years</td>
<td></td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>3) Above 10 years</td>
<td></td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>7.</td>
<td><strong>Number of working hours</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) 5 – 8 hours</td>
<td></td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>2) Above 8 hours</td>
<td></td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>8.</td>
<td><strong>Bad habits</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Yes</td>
<td></td>
<td>46</td>
<td>92</td>
</tr>
<tr>
<td>2) No</td>
<td></td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 2.b shows that among the sanitary workers majority 48 (92%) of the workers belonged to Hindu religion, 32(64%) of the workers are having the experience of 5-10 years, 35(70%) of the workers are working above 8 hours, 46 (92%) are having bad habits like smoking, and alcoholism.
Table 2.c

DISTRIBUTION OF SANITARY WORKERS BASED ON THEIR DEMOGRAPHIC VARIABLES SUCH AS BAD HABITS, PREVIOUS TRAINING ON BIO MEDICAL WASTE MANAGEMENT, IMMUNIZATION

\[ n=50 \]

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Demographic Variables</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td>Bad habits</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1) Smoking</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2) Smokeless tobacco</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>3) Drinking</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>4) Drug addiction</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>5) Smoking and smokeless tobacco</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>6) Smoking and drinking</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>7) Smoking and drug addiction</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>8) Drinking and smokeless tobacco</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>9) Drinking and drug addiction</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>10) Smokeless tobacco and drug addiction</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10.</td>
<td>Previous knowledge regarding Bio medical waste management</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1) Yes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2) No</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>11.</td>
<td>Immunization against vaccine preventable diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1) Yes</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>2) No</td>
<td>40</td>
<td>80</td>
</tr>
</tbody>
</table>

Table 2.c shows that among the sanitary workers majority 16 (32%) of the workers had the habits of smoking and alcoholism. They are not having training regarding bio medical waste management. 40(80%) workers had immunized.
FIGURE 3

DISTRIBUTION OF PRE TEST AND POST TEST LEVEL OF KNOWLEDGE ON PREVENTION OF OCCUPATIONAL HEALTH HAZARDS AMONG SANITARY WORKERS

The figure 3 reveals that pre test knowledge for all 50 (100%) had inadequate knowledge. The post test knowledge revealed 36(72%) had adequate knowledge. 11(22%) had moderately adequate knowledge and 3(6%) had inadequate knowledge.
FIGURE 4

DISTRIBUTION OF PRE TEST AND POST TEST LEVEL OF ATTITUDE ON PREVENTION OF OCCUPATIONAL HEALTH HAZARDS AMONG SANITARY WORKERS

The above figure reveals that pre test attitude for all 39(78%) had negative attitude and 11(22%) had neutral attitude. The post test attitude revealed 33(66%) had positive attitude and 17(34%) had neutral attitude.
Table 3.a

PRE AND POST TEST LEVEL OF KNOWLEDGE ON PREVENTION OF OCCUPATIONAL HEALTH HAZARDS AMONG SANITARY WORKERS

\[ n = 50 \]

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>Paired ‘t’ test Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test</td>
<td>18.36</td>
<td>6.42</td>
<td>*42.3</td>
</tr>
<tr>
<td>Post test</td>
<td>77.18</td>
<td>7.66</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05 level

The above table reveals that the obtained ‘t’ value was found to be highly significant at the level of \((p < 0.05)\). It is inferred that the sanitary workers exposed to the planned teaching program had significant increase in post test knowledge.
Table 3.b

PRE AND POST TEST LEVEL OF ATTITUDE ON PREVENTION OF OCCUPATIONAL HEALTH HAZARDS AMONG SANITARY WORKERS

n = 50

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>Paired ‘t’ test Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test</td>
<td>24.56</td>
<td>7.84</td>
<td></td>
</tr>
<tr>
<td>Post test</td>
<td>49.46</td>
<td>4.86</td>
<td>*20.4</td>
</tr>
</tbody>
</table>

*Significant at 0.05 level

The above table reveals that the obtained ‘t’ value was found to be highly significant at the level of (p < 0.05). It is inferred that the sanitary workers exposed to the planned teaching program had significant increase in post test attitude.
Table 4

RELATIONSHIP BETWEEN POST TEST LEVEL OF KNOWLEDGE AND ATTITUDE ON PREVENTION OF OCCUPATIONAL HEALTH HAZARDS AMONG SANITARY WORKERS

\[ n = 50 \]

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>Paired ‘t’ test Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>45.78</td>
<td>7.66</td>
<td>*0.21</td>
</tr>
<tr>
<td>Attitude</td>
<td>49.46</td>
<td>4.86</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05 level

The table 4 reveals that obtained knowledge mean score was 45.78 with a standard deviation of 7.66 and obtained attitude mean score was 49.46 with standard deviation of 4.86. The relationship between post test knowledge and attitude ‘r’ value is 0.21 (p<0.05).
Table 5.a

ASSOCIATION OF KNOWLEDGE WITH THE SELECTED DEMOGRAPHIC VARIABLES SUCH AS AGE, SEX, EDUCATION AND MARITAL STATUS AMONG SANITARY WORKERS

n=50

<table>
<thead>
<tr>
<th>S. No</th>
<th>Variable</th>
<th>Adequate</th>
<th>Moderately adequate</th>
<th>Inadequate</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Age in years</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>11</td>
<td>5</td>
<td>0</td>
<td># 5.65</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Above 50</td>
<td>9</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>25</td>
<td>9</td>
<td>3</td>
<td># 1.78</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>11</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Literate</td>
<td>17</td>
<td>5</td>
<td>2</td>
<td># 0.45</td>
</tr>
<tr>
<td></td>
<td>Iliterate</td>
<td>19</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>married</td>
<td>33</td>
<td>10</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unmarried</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td># 0.28</td>
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<tr>
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</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

# Not significant

Table 5.a shows the association between demographic variables with post test knowledge among sanitary workers. Regarding age the $\chi^2$ was 5.65(p<0.05) which was significant. Regarding sex the $\chi^2$ was 1.78 (p<0.05) which was not significant. Regarding education the $\chi^2$ was 0.45 (p<0.05) which was not significant. Regarding marital status the $\chi^2$ was 0.45(p<0.05) which was not significant.
Table 5.b

ASSOCIATION OF KNOWLEDGE WITH THE SELECTED DEMOGRAPHIC VARIABLES SUCH AS RELIGION, EXPERIENCE, WORKING HOURS AMONG SANITARY WORKERS

n=50

<table>
<thead>
<tr>
<th>S. No</th>
<th>Variable</th>
<th>Adequate</th>
<th>Moderately adequate</th>
<th>Inadequate</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td>#0.80</td>
</tr>
<tr>
<td></td>
<td>Hindu</td>
<td>34</td>
<td>11</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Christian</td>
<td>2</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Muslim</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Experience</td>
<td></td>
<td></td>
<td></td>
<td>#1.21</td>
</tr>
<tr>
<td></td>
<td>1 to 5 years</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 to 10 years</td>
<td>24</td>
<td>6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Above 10 years</td>
<td>12</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Working hours</td>
<td></td>
<td></td>
<td></td>
<td>#0.27</td>
</tr>
<tr>
<td></td>
<td>1 to 5 hours</td>
<td>11</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 to 10 hours</td>
<td>25</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

# - Not significant

Table 5.b shows the association between demographic variables with post test knowledge among sanitary workers. Regarding the religion the \( \chi^2 \) was 0.80 (p<0.05) which was not significant. Regarding the experience the \( \chi^2 \) was 1.27 (p<0.05) which was not significant. Regarding the Number of working hours per day the \( \chi^2 \) was 0.27 (p<0.05) which was not significant.
### Table 6.a

**ASSOCIATION OF ATTITUDE WITH THE SELECTED DEMOGRAPHIC VARIABLES SUCH AS AGE, SEX, EDUCATION AND MARITAL STATUS AMONG SANITARY WORKERS**

\( n=50 \)

<table>
<thead>
<tr>
<th>S. No</th>
<th>Variable</th>
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<th>Neutral</th>
<th>Negative</th>
<th>( \chi^2 )</th>
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</thead>
<tbody>
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<td>1</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-30</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>13</td>
<td>3</td>
<td>0</td>
<td># 3.27</td>
</tr>
<tr>
<td></td>
<td>40-50</td>
<td>8</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Above 50</td>
<td>8</td>
<td>4</td>
<td>0</td>
<td></td>
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<tr>
<td>2</td>
<td><strong>Sex</strong></td>
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<td></td>
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</tr>
<tr>
<td></td>
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<td>24</td>
<td>13</td>
<td>0</td>
<td># 0.84</td>
</tr>
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<td>3</td>
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<td></td>
</tr>
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<td><strong>Education</strong></td>
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</tr>
<tr>
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<td>Literate</td>
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<td>8</td>
<td>0</td>
<td># 0.01</td>
</tr>
<tr>
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<td>8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td><strong>Marital status</strong></td>
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<tr>
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<td>Unmarried</td>
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<td>0</td>
<td># 0.64</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
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<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

# Not significant

Table 6.a shows the association between demographic variables with post test attitude among sanitary workers. Regarding age the \( \chi^2 \) was 3.28 (p<0.05). Regarding sex the \( \chi^2 \) was 0.84 (p<0.05). Regarding education the \( \chi^2 \) was 0.01 (p<0.05). Regarding marital status the \( \chi^2 \) was 0.64(p<0.05). So all selected demographic variables were not significant.
Table 6.b

ASSOCIATION OF ATTITUDE WITH THE SELECTED DEMOGRAPHIC VARIABLES SUCH AS RELIGION, EXPERIENCE AND WORKING HOURS AMONG SANITARY WORKERS

n=50

<table>
<thead>
<tr>
<th>S. No</th>
<th>Variable</th>
<th>Adequate</th>
<th>Moderately adequate</th>
<th>Inadequate</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Religion</td>
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</tr>
<tr>
<td></td>
<td>Hindu</td>
<td>34</td>
<td>11</td>
<td>3</td>
<td>#0.80</td>
</tr>
<tr>
<td></td>
<td>Christian</td>
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<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Muslim</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 to 5 years</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>#1.21</td>
</tr>
<tr>
<td></td>
<td>5 to 10 years</td>
<td>20</td>
<td>12</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Above 10 years</td>
<td>14</td>
<td>4</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Working hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 to 5 hours</td>
<td>10</td>
<td>5</td>
<td>0</td>
<td>#0.27</td>
</tr>
<tr>
<td></td>
<td>5 to 10 hours</td>
<td>24</td>
<td>11</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

# - Not significant

Table 6.b shows the association between demographic variables with post test attitude among sanitary workers. Regarding the religion the $\chi^2$ was 0.18 (p<0.05) which was not significant. Regarding the experience the $\chi^2$ was 1.27 (p<0.05) which was not significant. Regarding the Number of working hours per day the $\chi^2$ was 0.27 (p<0.05) which was not significant.
CHAPTER V

DISCUSSION

This study was conducted to evaluate the effectiveness of planned teaching programme on knowledge and attitude of prevention of occupational health hazards among sanitary workers in selected areas at Madurai.

The discussion was based on the objectives specified in this study.

The first objective of this study was to assess the prevalence of signs and symptoms of occupational diseases among sanitary workers in selected areas at Madurai.

The study findings reveals that majority  of 50 (100%) sanitary workers were suffered from respiratory diseases such as 50 (100%) workers had recurrent upper respiratory tract infections and 18(36) workers had chronic persistent cough. 42 (100%) sanitary workers were affected with skin diseases in that 42(84%) had itching all over the body and 36(72%) sanitary workers were affected with allergy and skin rashes. 36 (72%) of workers had gastro intestinal problems including 12(24%) had recurrent episodes of diarrhea and 30(60) sanitary workers had worm infestation. 28(56%) sanitary workers were suffered from eye problems in that 12(24%) of workers had burning sensation in the eye and 16(32%) sanitary workers were suffered with eye irritation. 44(80%) workers were affected with musculo skeletal problems such as 44(88%) had back pain and 38 (76%) workers had arm and leg pain.

This study was supported by the study conducted by Purushottam, et al (2010) on Morbidity Profile of Sewage Workers in Mumbai City. The following results were obtained. On clinical examination, The eye problems 70.6% musculo skeletal
problems 68.0% workers. 58.0% gastro intestinal problems, 52.6% respiratory problems. 52 % skin disorders, Injuries due to work 26.0% and minor injuries 70.6% were detected.

The second objective of this study was to assess the existing knowledge and attitude of prevention of occupational health hazards among sanitary workers.

The findings of the study shows that majority of sanitary workers had inadequate knowledge 50 (100%) and 34 (78%) had negative attitude and 16 (32%) had negative attitude on prevention of occupational health hazards in the pre test conducted before administering the planned teaching programme.

These findings were consistent with the study done by Ramya.M.(2009) conducted a study to assess the awareness of knowledge, attitude and practice of infection control measures among sanitary workers. regarding knowledge of infection control measures All 50 (100%) workers had inadequate knowledge regarding infection control measures. 37(74%) had negative attitude and 13(26%) had neutral attitude regarding infection control measures. 44(88%) were not practicing infection control measures.

The third objective of the study is to evaluate the effectiveness of planned teaching program on knowledge and attitude of sanitary workers regarding prevention of occupational health hazards.

The ‘t’ value 42.3 p(<0.05) indicates that there is a statistically significant difference between the pre test and post test knowledge level of the sanitary workers. For attitude 't' value of 20.4 p(<0.05) shows that there is statistically significant difference between pretest and post test knowledge.
This study was supported by Jyoti shrivastava et.,al conducted a study on effectiveness of planned teaching programme among fourth class workers in Choithram Hospital. The findings of the study shows that the mean pre test knowledge score was 15.89 and the mean post-test knowledge score was 23.42 and the post test knowledge mean score higher than the pre test knowledge mean score. So the planned teaching programme was very effective.

The fourth objective of this study was to find out the relationship between post test level of knowledge and attitude of sanitary workers on prevention of occupational health hazards.

The post test knowledge mean value was 77.18 and SD was 7.66, the post test attitude mean value was 49.46 and SD was 4.86. The relationship between post test knowledge and attitude ‘r’ value was 0.21. This shows there was a positive correlation between the post test level of knowledge and attitude of sanitary workers on prevention of occupational health hazards. This inferred that the attitude of sanitary workers was positively influenced by their knowledge to some extent.

This study was supported by Priya Thomas (2009) conducted a study to evaluate the effectiveness of structured teaching programme on infection control among hospital sanitary workers. The results obtained that compare with pre test level of knowledge and attitude and post test level of knowledge and attitude, If the knowledge level increases attitude level also increased.
The fifth objective of the study is to determine the association between post test level of knowledge and attitude with selected demographic variables.

Regarding the association between the level of knowledge and attitude with selected demographic variables, the findings show that there was no significant association between knowledge and attitude with all selected demographic variables. Such as age, sex, educational status, experience and number of working hours. So the hypothesis H4 and H5 were rejected. The investigator realizes that despite all the variables, the planned teaching programme will improve the knowledge and attitude of sanitary workers regarding prevention of occupational health hazards.

This study was supported by Rajnarayaj Tiwari (2008) conducted a study on knowledge, of sanitary and sewage workers regarding occupational health hazards. The results show that there is no significant association between the knowledge and demographic variables.

The knowledge and attitude regarding health hazards of sanitary workers is not constrained with their demographic variables. They are not ready to accept the hygienic practices, and the change made by the government as well as NGO’s.
CHAPTER VI
SUMMARY AND RECOMMENDATION

This chapter deals with the summary, findings, it focuses on the implications and gives recommendations for nursing practice, nursing research, nursing administration, and nursing education. The technical research effort of the investigator has helped in presenting the study findings that was revealed from the sanitary workers prevention of occupational health hazards after structured teaching programme.

SUMMARY OF THE STUDY

The focus of the study was to evaluate the effectiveness of planned teaching program on knowledge and attitude on prevention of occupational health hazards among sanitary workers in selected areas at Madurai. An intensive search of review of literature helped the investigator to develop the conceptual frame work, questionnaire, checklist and methodology. The review of literature was done with various kinds of books, journals and electronic resources. The conceptual frame work adopted for this study was Levin and Becker’s health belief model (1975).

Research design adopted for this study was quasi experimental design. A questionnaire and a check list were developed by the investigator to assess knowledge and attitude of sanitary workers regarding prevention of occupational health hazards. The tool was found to be reliable and feasible. The reliability of the tool was established by administration of the questionnaire to a sample of 5 sanitary workers selected from Thirumangalam. Reliability was worked out by the test-retest method after a gap of 8 days. The Karl Pearson’s co-efficient of correlation was computed.
The ‘r’ value for knowledge was 0.98 and attitude was 0.89. The tool was found to be reliable. The gathered data were computed and analyzed in terms of the study objectives.

The main study was conducted in Madurai for a period of six weeks. Convenient sampling technique was used to collect data from the participants. Descriptive and inferential statistics were used for organize, analyze, and interpret the data.

**MAIN FINDINGS OF THE STUDY**

The study findings shows majority of 50(100%), workers had respiratory diseases, 44(88%) had skin diseases, 36(72%) workers had gastro intestinal problems, 29(58%) of workers had eye problems whereas 44(88%) had musculoskeletal problems.

Regarding the pre test level of knowledge among sanitary workers, all respondents 50 (100%) had inadequate knowledge regarding prevention of occupational health hazards particularly about the major work related diseases, causes, signs and symptoms and prophylactic measures of disease prevention. Regarding the level of attitude 39 (78%) had negative attitude and remaining 11(22%) of the total sanitary workers negative attitude towards prevention of occupational health hazards.

The investigator feels that poor literacy rate, work burden and unhealthy working environment leads to inadequate knowledge and attitude among sanitary workers. Also the finding shows that there is no health awareness programme conducted like occupational health hazards and bio medical waste management.
Regarding effectiveness of planned teaching programme, mean score of post test knowledge was higher than the pretest knowledge. Pre test score was 18.36 and post test was 77.18. The mean score of attitude in pre test was 24.56 and post test was 49.46, so Post test attitude mean score is higher than pre test attitude mean score. This finding indicates that there was significant difference pre test and post test knowledge and attitude regarding occupational health hazards among sanitary workers. This was observed that the planned teaching programme was effective. The results reveals that the planned teaching programmes play a vital role in creating awareness of the sanitary workers.

Regarding the relationship between post test level of knowledge and attitude there exist a positive correlation on Karl Pearson correlation coefficient r = 0.21.

Regarding association between level of knowledge and attitude with selected demographic variables, there was no significant association between level knowledge with demographic variables such as age, sex, educational status, income, years of experience and number of working hours per day.

Regarding association between the levels of attitude with selected demographic variables, there was no significant association between level with demographic variables such as age, sex, educational status, income, years of experience and number of working hours per day.

The investigator feels that this planned teaching programme was helps to create the positive attitude on sanitary workers. This education brings considerable changes in attitude of sanitary workers regarding the use of personal protective equipments.
CONCLUSION

The main conclusion of this present study is that all the sanitary workers were affected with occupational health diseases. The planned teaching programme is very much effective in bringing the changes on knowledge and attitude regarding prophylactic measures for reducing work related diseases such as to wear mask, clean clothes, maintain personal hygiene, to avoid prolonged exposure of direct sun light, avoid smoking and alcoholism, reduce the intake of coffee, tea and other beverages often, use separate slippers for work place and personal use, deworming to the them and their family members. Instead of rubbing the eyes they are educated to gently wash the eyes with clean and cold water. Advice them to maintain proper body mechanics. Suggestions given for them regarding periodical health check ups and the appropriate immunization. The study results shows that the planned teaching programme increased the health seeking behavior among sanitary workers.

IMPLICATIONS OF THE STUDY

The findings of the study have several implications in the areas namely nursing practice, nursing education, nursing administration, and nursing research.

IMPLICATIONS FOR NURSING PRACTICE

1. The findings on sanitary workers show the need for preventive education occupational health hazards through public health personnel to increase knowledge and attitude regarding occupational health hazards.

2. The study findings will helps to identify the common health problems of sanitary workers and thereby prevent sanitary workers from prevention of occupational health hazards.
3. The study findings will encourage the community health nurses to create awareness among sanitary workers about occupational health hazards through the mass health education campaigns, Individual health education programme and Group health education programme.

4. It will help the community health nurse to organize annual master health checkups and periodical health visits to the sanitary workers.

5. Audio visual aids like short films, flex and pamphlets serve as the best teaching aid for individual learning or group learning of sanitary workers.

**IMPLICATIONS FOR NURSING EDUCATION**

1. This study will be an eye opener for future Nursing students to pay attention in collecting materials for health education of sanitary workers in hospital and community area.

2. It helps to educate the Nursing students with facts on prevention of occupational health hazards among sanitary workers.

3. This study will enable the student Nurses to teach the sanitary workers with the different aspects of knowledge regarding occupational health hazards.

**IMPLICATIONS FOR NURSING ADMINISTRATION**

1. This study will help the community health administrator to assign more number of community health nurses in order to assess and educate the community to have healthy citizens in our country.

2. This will encourage the Nurse administrator to arrange workshops, seminars regarding prevention of occupational health hazards among sanitary workers.

3. Audio visual aids regarding prevention of occupational health hazards among sanitary workers should be kept in sub centres, primary health centres and District hospitals for further use of sanitary workers of that locality.
4. It will help the Nurse administrator to arrange the various rehabilitation services especially smoking and alcoholism for sanitary workers.

IMPLICATIONS FOR NURSING RESEARCH

1. This study can be a baseline for the future studies build upon.

2. This study motivates the other investigator expand the scientific body of professional knowledge upon which further study can be conducted.

3. This study will bring about the fact that more studies will be conducted in the sanitary workers community.

4. Large scale studies can be conducted.

RECOMMENDATIONS

1. A similar study can be conducted for long duration

2. A similar study should be conducted by utilizing other domain like practice

3. A similar study can be conducted as a comparative between hospital and community sanitary workers.

4. A similar study can be conducted on a large population

5. Counseling centre for sanitary workers should be held in each union, Municipal and Corporation offices.

6. ESI benefits should be given to the sanitary workers also.

7. All sanitary workers must be immunized with TT and Hepatitis B vaccination
REFERENCES

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