MORBIDITY PATTERN ON STREET SWEEPERS IN RAJAPALAYAM TALUK

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Abstract

Background:
The street sweepers play a vital role to keep the clean and health of public. They have affect various deceases such as viral fever, asthma, various skin deceases breathlessness etc., They have face lot of problems in society and physically.

Methods:
There are forty-two villages are in Rajapalayam Taluk. There are 123 sweepers are worked in the study area. Hence the researcher taken as 72 respondents adopting by simple random sampling method. The researcher has using well-structured interview schedule for data collection.

Result:
Most (29.20%) of the respondents are belongs to the Age Group of 26 to 30 years and 31 to 35 years, Majority (68.10%) of the respondents are Male, most (48.60%) are earning the Income Level is Below Rs. 10,000, Majority (59.70%) of the respondents are Married, Majority (65.30%) of the respondents are having above 15 years' experience, Majority (80.60%) have a Permanent Job, Majority (81.90%) are collecting the garbage through Wheel Borrows, Majority (56.90%) of the sweepers are infected by Fungal Infection under Skin Diseases. Level of significance for nine morbidity conditions is more than P value (0.05).

Conclusion: This present study concludes that majority of the sweepers are affected by injuries/ accident, skin deceases, Gastrointestinal Diseases and utilization of personal caring equipments were pitiable.

Keywords: *Street Sweepers, Morbitity Pattern, PPE Usage*

INTRODUCTION

The street sweepers play a vital role to keep the clean and health of public. Street sweepers has earned the income level is Rs. 250 per day. They have affect various deceases such as viral fever, asthma, various skin deceases breathlessness etc., but the government does not provide any helpline to safe and secured job and standard living of the sweepers. They have face lot of problems in society and physically. Hence the study focuses on the various problems faced by the sweepers in physically to know the standard of living of the sweepers and to provide helpline for same from the deceases by the government.

STATEMENT OF THE PROBLEM

It has functions the lot of technology-based industries and spinning miles and various villages comes under the Rajapalayam Taluk. So, more than 50 sweepers are working in the study area. At the same time, they are

affecting various types of deceases like skin deceases, viral fever, weaseling etc., particularly women are facing some societal problems. They should not develop the standard of living. Because they are earned very low income. So, the sweepers' does not take the medical facilities, as well as they should survive with these diseases. Because, the diseased sweepers' increasing in the study area. The researcher has focused the problems faced by the sweepers physically and psychologically in this area.

SCOPE OF THE STUDY

A study has involved the various sweepers in this study area and to analyze the level morbidity conditions of the sweepers.

OBJECTIVES OF THE STUDY

The following objectives has frame by the researcher:
- ♣ To measure the level of morbidity conditions of the sweepers, in study area.
- ♣ To analyze the standard of living of the sweepers.
- ♣ To know the helpline provided to the sweepers to save from the diseases by the government.

METHODOLOGY

The study is designed as a descriptive and analytical one. Considerable data are available both from primary and secondary sources like reputed journals, books, magazines and websites. The researcher has using well-structured interview schedule for data collection.

HYPOTHESES

The following hypotheses framed to fulfill the objectives of the study:

- ❖ H_0: There is no significant relationship between socio economic data such as Age, Marital Status, Experience, Employment Mode, Working Days and Working Hours, Gender of the sweepers and Level of Morbidity Conditions of the sweepers.
- ❖ H_0: There is no significant relationship between Method of Garbage Collection and Morbidity Conditions of the sweepers.

SAMPLING DESIGN

There are forty-two villages are in Rajapalayam Taluk. There are 123 sweepers are worked in the study area. Hence the researcher taken as 72 respondents adopting by simple random sampling method. The selection method is explained by the researcher.

Table: 1
Selection Method of Village Wise

S.No	Name of the Villages	No.of .Respondents
1.	Kollankondan	4
2.	Kothankulam	5
3.	Dhalavaipuram	2
4.	Karisalkulam	4
5.	Vadagarai	4
6.	Ayan kollankondan	3
7.	Nathampatti	3
8.	Rajapalayam	5
9.	Settur	4
10.	Sundararajapuram	5

11.	Samusigapuram	4
12.	Tenkarai	4
13.	Kadampankulam	2
14.	Murambu	5
15.	Varagunaramapuram	3
16.	Gopalapuram	3
17.	Devadhanam	3
18.	Puthur	5
19.	Reghunathapuram	3
20.	Arasiyarpatti	4
Total		**72**

STATISTICAL TOOLS

The data is unnormally distributed. Hence, the researcher has used the non-parametric test for analysis:
* Percentage Analysis
* Standard Deviation
* Kruskal Wallis Test
* Jonckheere - Terpstra Test

REVIEW OF LITERATURE

The following reviews collected by the researcher:

I. Yogesh D Sabde, Sanjay P Zodpey (2008), entitled as "A Study of Morbidity Pattern in Street Sweepers: A Cross-sectional Study", Street sweepers play an important role in maintaining the health and hygiene within the cities. This job exposes the street sweepers to a variety of risk factors such as dust, toxins and diesel exhaust pollution, which make them vulnerable to develop certain occupational diseases. Therefore, it was thought necessary to study the morbidity propel in this occupational group. To study the prevalence of morbidities among street sweepers and comparison group. A cross-sectional study with a comparison group. Nagpur Municipal Corporation, Nagpur. The study included two groups: (1) A study group comprising 273 street sweepers. (2) A comparison group comprising 142 class IV workers working in the office buildings of Nagpur Municipal Corporation, Nagpur. A pretested proforma was used to record the necessary information such as clinical history, socio-demographic factors, findings of clinical examination and investigations performed. The important morbidities detected among street sweepers were the following: anemia (20.5%), hypertension (9.5%), upper respiratory tract infections (URTI) (7.3%) and chronic bronchitis (5.9%). In the comparison group, important morbidities detected were the following: anemia (20.4%), hypertension (11.3%), hyperacidity (9.9%), URTI (7.0%) and refractive error (7.0%). Chronic bronchitis was detected in two subjects (1.4%) of the comparison group. The prevalence of chronic bronchitis was significantly high among street sweepers than that of subjects of the comparison group. Therefore, it is recommended that further studies with a larger sample size be undertaken to identify the factors responsible for higher prevalence of chronic bronchitis among the street sweepers. [1]

II. Nayera S. Mostafa, Mona A. Abdel-Hamid, Lamyaa S. AlBagoury (2015), analyzed that "Work-related Respiratory Disorders among Street Sweepers in Cairo, Egypt: A Comparative Study", Respiratory diseases are one of the main morbidities to which street sweepers are exposed due to inhalation of road dust. The problem is rising in developing countries due to lack of occupational safety and health measures. Cumulative and long exposure to dust negatively affects lung function parameters. This study aims to measure and compare the lung functions and respiratory morbidity among a group of street sweepers and a comparison group of office workers in Abbasia district, Cairo, Egypt. This study was a cross sectional study which included 107 street sweepers and 104 office workers. The study participants were asked about their socio-demographic, occupational and medical data. Their lung functions were measured. The percentage of participants with reduced FEV1, reduced FVC and reduced FEV1/FVC were significantly higher in the sweepers than in the control group (62.1% versus 34.6%, 58.3% versus 44.2%, and 32% versus 18.3% respectively). Chronic cough was also significantly higher in the sweepers than in the

control group (17.5% versus 5.8%). Reduced FVC% was significantly associated to older age and longer duration of employment. Reduced FEV1/FVC was positively associated to smoking among sweepers. Hazardous exposure to dust during street sweeping can cause respiratory symptoms such as cough and a significant reduction in pulmonary function. [2]

III. Kanjanar Pintakha and Wattasit Siriwong (2015), entitled as "Prevalence rate and risk factors associated with health hazards to select the magnitude of health problems among street sweepers in Chiang Rai province, Thailand", Street sweepers exposed to hazards directly and indirectly which can affect their health. This study aimed to determine the prevalence rate of health hazards, to examine the risk factors association with health hazards, and to assess magnitude of health problems among street sweepers. A cross-sectional study was conducted in Chiang Rai province. All volunteered male and female 75 street sweepers were full time workers. Data collection was divided into two phases; the first phase, the hazard questionnaire, was applied for face to face interview. The second phase, focus group discussion, was processed of the prioritization occupational health problems. Majority of prevalence health hazard had 89.3% of street sweepers in ergonomic and 80.0% of physiological hazard respectively. Statistical significance was associated between chemical hazard with educational background and take a short break, biological hazard with working experience, physiological with age group, and ergonomic with gender, age, working experience, educational background, take a short break, BMI, length of broom and weight of broom (Chi-square test, p<0.05). The finding founded that ergonomic was ranked as a major severity of health hazards among street sweepers. Magnitude of health hazards should be raising their concern on health adverse effects and safety in an ergonomic. [3]

IV. Pradeep S Salve, Praveen Chokhandre (2016), his article that "Assessing the Exposure of Street Sweeping and Potential Risk Factors for Developing Musculoskeletal Disorders and Related Disabilities: A Cross-Sectional Study", This study aims to assess the exposure of those involved in street sweeping to the development of musculoskeletal disorders (MSDs) and related

disabilities and tries to identify the individual risk factors thereof. A cross-sectional survey was conducted among street sweepers together with a comparison group. A modified Standardized Nordic Questionnaire was adopted to measure the prevalence of MSDs and related disabilities. The impact of the occupation of sweeping on the development of MSDs and related disabilities was assessed using the propensity score matching (PSM) method. A multivariate logistic regression model was employed to identify the individual risk factors. Street sweepers (n=180) and a comparison group (n=180), working for at least a year as formal employees of the Municipal Corporation of Greater Mumbai (MCGM), were randomly selected from 6 municipal wards. The prevalence of the MSDs was significantly higher among the sweepers for shoulders (32%), wrists/hands (29%), elbows (27%) and neck (17%) compared with the comparison group, in which the prevalence was 11%, 19%, 9% and 11%, respectively. The disabilities too were significantly higher among the street sweepers for the lower back (27%), upper back (27%), wrists/hands (26%), shoulders (24%) and elbows (23%) compared with the comparison group, for which the figures were 18%, 19%, 13%, 9% and 6% respectively. The PSM method highlighted that the occupation of sweeping raised the risk of developing MSDs and disabilities particularly for the shoulders (17–16%), wrists/hands (14% each), elbows (13% each) and the upper back (12–13%). After adjusting the age, body mass index and the caste of the street sweepers, the number of years of engagement in street sweeping and the location of work emerged as potential risk factors in the development of MSDs and, thereby, related disabilities. The study concluded that the occupation of street sweeping raises the risk of MSDs and related disabilities. This study recommends preventive and curative measures to deal with MSDs among street sweepers. [4]

V. Deepak Chopra, Shilpi, Manchanda S, Jauhari N (2017), the titled as "A Study of Morbidity Pattern in Indoor Patients in a Tertiary Care Hospital in Lucknow", Health statistics decide the foundation and course of health policies and programs. Indicators such as the Birth Rate, Death Rate, Life Expectancy at Birth, Morbidity/ Mortality patterns etc. reveal the extent and nature of the health problems in the community and thus assists in establishment of the priorities for policy planning and implementation. The present study is being done to assess the morbidity pattern in indoor patients in a tertiary care hospital. A cross sectional study done in a tertiary care hospital with sample size of 4511. The study found out that maximum patient (44.4%) were admitted under Chapter I i.e. certain infectious and parasitic diseases and 72% of hospital admissions were accounted for by 12 common causes of morbidity. Most of the results of our study were comparable with other studies. The differences in some variables may be there due to that the study is being limited to IPD patients of medicine ward. Acute infectious diseases are the leading causes of morbidity in all ages and both genders. [5]

ANALYSIS OF DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Total number of respondents from villages in Rajapalayam Taluk based on Age, Gender, Income, Marital status, Experience, Education, Employment Mode, Working Days, Working Hours, Method of Garbage Collection, PPE Usage, Training on Health and Safety and Medical Insurance is presented in the following Table.

Table: 2
Demographic Profile of the Respondents

S.No	Particulars	Number of Respondents	Percentage (%)
1.	**Age**		
	Below 25	3	4.20%
	26 to 30	21	29.20%
	31 to 35	21	29.20%
	36 to 40	20	27.80%
	Above 40	7	9.70%
	Total	**72**	**100.00%**
2.	**Gender**		
	Male	49	68.10%
	Female	13	31.90%
	Total	**72**	**100.00%**
3.	**Income**		
	Below 10,000	35	48.60%
	10,001 to 15,000	26	36.10%
	Above 15,000	11	15.30%
	Total	**72**	**100.00%**
4.	**Marital Status**		
	Married	43	59.70%
	Unmarried	29	40.30%
	Total	**72**	**100.00%**
5.	**Experience**		
	5 to 10 years	8	11.10%
	10 to 15 years	17	23.60%
	Above 15 years	47	65.30%
	Total	**72**	**100.00%**
6.	**Educational Status**		
	Literate	26	36.10%
	Illiterate	46	63.90%
	Total	**72**	**100.00%**
7.	**Employment Mode**		
	Permanent	58	80.60%
	Temporary	14	19.40%
	Total	**72**	**100.00%**
8.	**Working Days**		
	Less than 5 days	49	68.10%
	More than 5 days	23	31.90%
	Total	**72**	**100.00%**

9.	**Working Hours Per Day**		
	Less than 8 hours	55	76.40%
	More than 8 hours	17	23.60%
	Total	**72**	**100.00%**
10.	**Method of Garbage Collection**		
	Carrying on back	6	8.30%
	Wheel barrow	59	81.90%
	Both	7	9.70%
	Total	**72**	**100.00%**
11.	**PPE Usage (Personal Productive Equipment)**		
	Face mask	14	19.45 %
	Goggles	10	13.89 %
	Boots	7	9.72 %
	Gloves	17	23.61 %
	Jackets	24	33.33 %
	Total	**72**	**100.00%**
12.	**Training provided on health and safety**		
	Yes	7	9.70%
	No	65	90.30%
	Total	**72**	**100.00%**
13.	**Medical Insurance**		
	Partial	53	73.60%
	None	19	26.40%
	Total	**72**	**100.00%**

[Sources: Primary Data]

It is found from the survey that most (29.20%) of the respondents are belongs to the Age Group of 26 to 30 years and 31 to 35 years, majority (68.10%) of the respondents are Male, most (48.60%) are earning the Income Level is Below Rs. 10,000, majority (59.70%) of the re

spondents are Married, finally majority (65.30%) of the respondents are having above 15 years of experience and nobody comes under the Below 5 years of experience in this study.

Table 1.1 explained that majority (63.90%) sweepers are Illiterate, (80.60%) have a Permanent Job, (68.10%) sweepers are working Less than 5 days, (76.40%) are working Less than 8 hours, (81.90%) are collecting the garbage through Wheel Borrows, most (33.33 %) of the sweepers wear the jackets in the working time, (90.30%) higher authorities are not conducting the training programmes for healthy and safety work to the sweepers in this study area, (73.60%) respondents are receiving Partial Insurance from the Government and finally nobody can receive the Full Insurance.

MORBID CONDITIONS OF THE SWEEPERS

The researcher has collected the data about the morbid conditions of the sweepers. It shows that percentage of the morbid conditions in the following Table 3.

Table: 3
Morbid Conditions

S.No	Morbidities	Number of Respondents	Percentage (%)
1.	**Injuries/Accident**		
	Fracture	19	26.40%
	Laceration	38	52.80%

	Contusion	15	20.80%
	Total	**72**	**100.00%**
2.	**Skin Diseases**		
	Rashes/Infection	31	43.10%
	Fungal Infection	41	56.90%
	Total	**72**	**100.00%**
3.	**Respiratory Diseases**		
	Dust allergy	12	16.70%
	Asthma	14	19.40%
	Chronic cough	19	26.40%
	Running nose	19	26.40%
	Cough with expectoration		
	Difficulty in breathing		
	Cough with chest pain		
	Blood in sputum		
	Total	**72**	**100.00%**
4.	**Eye Diseases / Ophthalmic problems**		
	Eye soreness	21	29.20%
	Redness	20	27.80%
	Watering of eyes	20	27.80%
	Itching	11	15.30%
	Burning sensation		
	Total	**72**	**100.00%**
5.	**Gastrointestinal Diseases**		
	Loose motion	13	18.10%
	Gastroenteritis	25	34.70%
	Leptospirosis	27	37.50%
	Worm infection	7	9.70%
	Total	**72**	**100.00%**
6.	**Musculoskeletal Disorders**		
	Neck pain	8	11.10%
	Upper back pain	9	12.50%
	Shoulder pain	5	6.90%
	Elbow pain	5	6.90%
	Wrist and Hand pain	23	31.90%
	Low back pain	8	11.10%
	Hip/Thigh pian	6	8.30%
	Knee pain	4	5.60%
	Ankle pain	4	5.60%
	Total	**72**	**100.00%**
7.	**Endocurin System Affected**		
	Pineal Gland	8	11.11
	Pituitary Gland	10	13.90
	Thyroid Gland	24	33.33
	Adrenal Gland	16	22.22

	Thymus	8	11.11
	Pancreas	6	8.33
	Total	**72**	**100.00%**
8.	**Central Nervous System (CNS)**		
	Cerebral Hemispheres	19	26.40%
	Brain Stem	37	51.40%
	Spinal Cord	16	22.20%
	Total	**72**	**100.00%**
9.	**Cardiovascular Diseases**		
	Coronary Artery Disease	14	19.44
	Peripheral Arterial Disease	8	11.11
	Cerebrovascular Disease	5	6.94
	Renal Artery Stenosis	21	29.18
	Aortic Aneurysm	24	33.33
	Total	**72**	**100.00**

[Source: Primary Data]

The morbid conditions divided into nine types such as Injuries/Accident, Skin Diseases, Respiratory Diseases, Eye Diseases, Gastrointestinal Diseases, Musculoskeletal Disorders, Endocurin, Cardiovascular and CNS.

Table 3 revealed that majority (52.80%) of the sweepers are affected Laceration under the morbidity of Injuries/Accident, majority (56.90%) of the sweepers are infected by Fungal Infection under Skin Diseases, most (26.40%) of the sweepers are suffering from Chronic cough and Running nose under the morbidity of Respiratory diseases, most (27.80%) of the sweepers are infected in Redness and Watering under the morbidity of Eye Diseases, most (37.50%) of the sweepers are affecting the Leptospirosis under the morbidity of Gastrointestinal Diseases, most (31.90%) of the sweepers are infected the Wrist and Hand under the Musculoskeletal Disorders, Most (33.33%) of the respondents are affected by Thyroid Gland, majority (51.40%) of the sweepers are affected by Brain Stem, most (33.33%) of the sweepers are affected Aortic Aneurysm.

SYSTEM WISE CLASSIFICATION OF MORBIDITY CONDITION

The study analyse that system wise classification of street sweepers among morbidity conditions using mean and standard deviation. The value is mentioned from high level of morbidity conditions.

Table: 4
System Wise Classification

S.No	Morbid Conditions	N	Minimum	Maximum	Mean	Standard Deviation
1.	Musculoskeletal system	72	1.00	9.00	4.6389	2.24114
2.	Respiratory system	72	1.00	5.00	2.9583	1.26087
3.	Eye	72	1.00	4.00	2.2917	1.05400
4.	Gastrointestinal system	72	1.00	4.00	2.3889	0.89687
5.	Cradiovascular system	72	1.00	3.00	1.8750	0.73038
6.	CNS	72	1.00	3.00	1.9583	0.70085
7.	Endocurin system	72	1.00	3.00	2.0000	0.69201
8.	Injuries	72	1.00	3.00	1.9444	0.68974
9.	Skin	72	1.00	2.00	1.5694	0.49863

[Sources: Computed Data]

Table 4 explained that, the sweepers are experiencing the level of morbid conditions. The Musculoskeletal system is highly affected by the sweepers (Mean =4.63, SD= 2.24), Skin problem is affected by low level (Mean = 1.5, SD = 0.50) and Respiratory system (Mean=2.9, SD=1.26), Eye (Mean=2.29, SD=1.05), Gastrointestinal system

(Mean=2.39, SD=0.90), Cradiovascular system (Mean=1.88, SD=0.73), CNS (Mean=1.96, SD=0.70), Endocurin system (Mean=2.00, SD=0.69), Injuries (Mean=1.94, SD=0.69) are affected by medium level in this study.

TESTING OF HYPOTHESES
RELATIONSHIP BETWEEN AGE AND LEVEL OF MORBID CONDITIONS OF THE SWEEPER'S -
Kruskal Wallis Test

To test whether there is any relationship between demographic profile of the respondents and level of morbid conditions of the sweeper's. The following null hypothesis has been framed.

Null Hypothesis:
"There is no significant relationship between Age and Level of Morbid Conditions of the sweeper's".
Table: 5
Relationship between Age and Level of Morbidity Conditions – Result of Kruskal Wallis Test

S.No	Level of Morbidity Conditions	CS	DF	AS	P	R
1.	Injuries/Accident	1.363	4	0.851	0.05	**NS**
2.	Skin Diseases	2.281	4	0.684	0.05	**NS**
3.	Respiratory Diseases	3.202	4	0.525	0.05	**NS**
4.	Eye Diseases	3.489	4	0.480	0.05	**NS**
5.	Gastrointestinal Diseases	2.017	4	0.733	0.05	**NS**
6.	Musculoskeletal Disorders	2.886	4	0.577	0.05	**NS**
7.	Endocurin	4.793	4	0.309	0.05	**NS**
8.	CNS	2.146	4	0.709	0.05	**NS**
9.	Cardiovascular Diseases	1.809	4	0.771	0.05	**NS**

[Source: Computed Primary Data]

(S and N.S denotes Significant and Not Significant at 5% level, C.S - Chi-Square, A.S - Asymp. Sig, R- Results)

It is noted that the levels of significance for the morbidity condition like injuries, skin diseases, respiratory diseases, eye diseases, gastrointestinal diseases, musculoskeletal disorders, endocurin, CNS, cardiovascular diseases are more than P value (0.05). Hence, age does not influence on these morbidity conditions. It is evident from Table 1.4.2 that as the level of significance for nine morbidity conditions is more than P value (0.05). **The null hypothesis is Accepted**.

Hence, it is concluded that there is no significant relationship between the age and level of morbidity conditions of the respondents. It shows that age does not affect morbidity conditions of respondents.

RELATIONSHIP BETWEEN MARITAL STATUS AND LEVEL OF MORBIDITY CONDITIONS OF THE SWEEPER'S - *f Kruskal Wallis Test*

To test whether there is any relationship between marital status and level of morbid conditions of the sweeper's. The following null hypothesis has been framed.

Null Hypothesis:
"There is no significant relationship between Marital status and Level of Morbidity Conditions of the sweeper's".

To test the null hypothesis, the Test has been applied and the results are shown in Table 6.

Table: 6
Relationship between Marital status and Level of Morbidity Conditions of the sweepers - Result of Kruskal Wallis Test

S.No	Level of Morbidity Conditions	CS	DF	AS	P	R
1.	Injuries/Accident	0.049	1	0.825	0.05	**NS**
2.	Skin Disease	0.532	1	0.466	0.05	**NS**
3.	Respiratory Diseases	0.003	1	0.958	0.05	**NS**

4.	Eye Diseases	0.002	1	0.962	0.05	**NS**
5.	Gastrointestinal Diseases	1.423	1	0.233	0.05	**NS**
6.	Musculoskeletal Disorders	0.115	1	0.734	0.05	**NS**
7.	Endocurin	4.341	1	0.037	0.05	**S**
8.	CNS	6.961	1	0.008	0.05	**S**
9.	Cardiovascular	0.058	1	0.809	0.05	**NS**

[Source: Computed Primary Data]
(S and N.S denotes Significant and Not Significant at 5% level), (C.S - Chi-Square, A.S - Asymp. Sig, R- Results)

It is noticed from the above analysis that the level of significance for the morbidity conditions is less than P value (0.05). Therefore, marital status of sweepers affected the Endocurin and CNS. It is also noted that the levels of significance for the morbidity conditions like injuries/accident, skin diseases, respiratory diseases, eye diseases, gastrointestinal diseases, musculoskeletal disorders, endocurin, CNS, cardiovascular diseases are more than P value (0.05). Hence, marital status does not affect on these morbidity conditions. It is evident from Table 1.4.2 that as the level of morbidity conditions for seven morbidity conditions is more than P value (0.05). **The null hypothesis is accepted**.

Hence, it is concluded that there is no significant relationship between the marital status and level of morbidity conditions of the respondents. It shows that marital status does not affect the morbidity conditions of the sweepers.

RELATIONSHIP BETWEEN GENDER AND LEVEL OF MORBIDITY CONDITIONS OF THE SWEEPER'S - *Kruskal Wallis Test*

To test whether there is any relationship between gender and level of morbid conditions of the sweeper's. The following null hypothesis has been framed.

Null Hypothesis:
"There is no significant relationship between gender and level of morbidity conditions of the sweeper's".
To test the null hypothesis, the Test has been applied and the results are shown in Table 7.

Table: 7
Relationship between gender and Level of Morbidity Conditions of the sweepers - Result of Kruskal Wallis Test

S.No	Level of Morbidity Conditions	CS	DF	AS	P	RS
1.	Injuries/Accident	0.967	1	0.325	0.05	**NS**
2.	Skin Diseases	0.002	1	0.961	0.05	**NS**
3.	Respiratory Diseases	3.712	1	0.054	0.05	**S**
4.	Eye Diseases	0.528	1	0.467	0.05	**NS**
5.	Gastrointestinal Diseases	6.589	1	0.010	0.05	**S**
6.	Musculoskeletal Disorders	2.869	1	0.090	0.05	**S**
7.	Endocurin	1.201	1	0.273	0.05	**NS**
8.	CNS	1.262	1	0.261	0.05	**NS**
9.	Cardiovascular Diseases	0.185	1	0.667	0.05	**NS**

[Source: Computed Primary Data]
(S and N.S denotes Significant and Not Significant at 5% level), (C.S - Chi-Square, A.S - Asymp. Sig, R- Results)

It is noticed from the above analysis that the level of significance for the morbidity conditions is less than P value (0.05). Therefore, gender of sweepers affected the Respiratory Diseases, Gastrointestinal Diseases and Musculoskeletal Disorders. It is also noted that the levels of significance for the morbidity conditions like injuries/accident, skin diseases, eye diseases, endocurin, CNS, cardiovascular diseases are more than P value (0.05). Hence, gender does not influence on these morbidity conditions. It is evident from Table 1.4.3 that as the level of morbidity conditions for six morbidity conditions is more than P value (0.05). **The null hypothesis is accepted**.

Hence, it is concluded that there is no significant relationship between the gender and level of morbidity conditions of the respondents. It shows that gender does not affect the morbidity conditions of the sweepers.

RELATIONSHIP BETWEEN EXPERIENCE AND LEVEL OF MORBIDITY CONDITIONS OF THE SWEEPER'S - *Kruskal Wallis Test*

To test whether there is any relationship between experience and level of morbid conditions of the sweeper's. The following null hypothesis has been framed.

Null Hypothesis:

"There is no significant relationship between experience and level of morbidity conditions of the sweeper's".
To test the null hypothesis, the Test has been applied and the results are shown in Table 8.

Table: 8
Relationship between experience and Level of Morbidity Conditions of the sweepers - Result of Kruskal Wallis Test

S.No	Level of Morbidity Conditions	CS	DF	AS	P	RS
1.	Injuries/Accident	0.831	2	0.660	0.05	**NS**
2.	Skin Diseases	3.534	2	0.171	0.05	**NS**
3.	Respiratory Diseases	3.086	2	0.214	0.05	**NS**
4.	Eye Diseases	2.632	2	0.268	0.05	**NS**
5.	Gastrointestinal Diseases	7.707	2	0.021	0.05	**S**
6.	Musculoskeletal Disorders	1.400	2	0.497	0.05	**NS**
7.	Endocurin	2.749	2	0.253	0.05	**NS**
8.	CNS	1.157	2	0.561	0.05	**NS**
9.	Cardiovascular Diseases	4.052	2	0.132	0.05	**NS**

[Sources: Computed Primary Data]
(S and N.S denotes Significant and Not Significant at 5% level), (C.S - Chi-Square, A.S - Asymp. Sig, R- Results)

It is shows from the above analysis that the level of significance for the morbidity conditions is less than P value (0.05). Therefore, experience of sweepers affected the Gastrointestinal Diseases. It is also noted that the levels of significance for the morbidity conditions like injuries/accident, skin diseases, respiratory diseases, musculoskeletal disorders, eye diseases, endocurin, CNS, cardiovascular diseases are more than P value (0.05). Hence, experience does not influence on these morbidity conditions. It is evident from Table 1.4.4 that as the level of morbidity conditions for eight morbidity conditions is more than P value (0.05). **The null hypothesis is accepted**.

Hence, it is concluded that there is no significant relationship between the experience and level of morbidity conditions of the respondents. It shows that experience does not affect the morbidity conditions of the sweepers.

RELATIONSHIP BETWEEN EMPLOYMENT MODE AND LEVEL OF MORBIDITY CONDITIONS OF THE SWEEPER'S - *Kruskal Wallis Test*

To test whether there is any relationship between employment mode and level of morbid conditions of the sweeper's. The following null hypothesis has been framed.

Null Hypothesis:

"There is no significant relationship between employment mode and level of morbidity conditions of the sweeper's".
To test the null hypothesis, the Test has been applied and the results are shown in Table 9.

Table: 9
Relationship between employment mode and Level of Morbidity Conditions of the sweepers - Result of Kruskal Wallis Test

S.No	Level of Morbidity Conditions	CS	DF	AS	P	R
1.	Injuries/Accident	0.141	1	0.707	0.05	**NS**
2.	Skin Diseases	1.466	1	0.226	0.05	**NS**
3.	Respiratory Diseases	1.183	1	0.277	0.05	**NS**
4.	Eye Diseases	7.992	1	0.005	0.05	**S**
5.	Gastrointestinal Diseases	0.099	1	0.753	0.05	**NS**
6.	Musculoskeletal Disorders	4.276	1	0.039	0.05	**S**
7.	Endocurin	0.185	1	0.667	0.05	**NS**
8.	CNS	0.079	1	0.779	0.05	**NS**
9.	Cardiovascular Diseases	0.153	1	0.695	0.05	**NS**

[Sources: Computed Primary data]
(S and N.S denotes Significant and Not Significant at 5% level), (C.S - Chi-Square, A.S - Asymp. Sig, R- Results)

It is evident from the above analysis that the level of significance for the morbidity conditions is less than P value (0.05). Therefore, employment mode of sweepers affected the Eye Diseases and Musculoskeletal Disorders. It is also noted that the levels of significance for the morbidity conditions like injuries/accident, skin diseases, respiratory diseases, gastrointestinal diseases, eye diseases, endocurin, CNS, cardiovascular diseases are more than P value (0.05). Hence, employment mode does not affect on these morbidity conditions. It is evident from Table 1.4.5 that as the level of morbidity conditions for seven morbidity conditions is more than P value (0.05). **The null hypothesis is accepted**.

Hence, it is concluded that there is no significant relationship between the employment mode and level of morbidity conditions of the respondents. It shows that employment mode does not affect the morbidity conditions of the sweepers.

RELATIONSHIP BETWEEN WORKING DAYS AND LEVEL OF MORBIDITY CONDITIONS OF THE SWEEPER'S - *Kruskal Wallis Test*

To test whether there is any relationship between working days and level of morbid conditions of the sweeper's. The following null hypothesis has been framed.

Null Hypothesis:
"There is no significant relationship between working days and level of morbidity conditions of the sweeper's".

To test the null hypothesis, the Test has been applied and the results are shown in Table 10.

Table: 10
Relationship between working days and Level of Morbidity Conditions of the sweepers - Result of Kruskal Wallis Test

S.No	Level of Morbidity Conditions	CS	DF	AS	P	R
1.	Injuries/Accident	0.399	1	0.528	0.05	**NS**
2.	Skin Diseases	0.002	1	0.961	0.05	**NS**
3.	Respiratory Diseases	0.058	1	0.961	0.05	**NS**
4.	Eye Diseases	0.058	1	0.581	0.05	**NS**
5.	Gastrointestinal Diseases	0.007	1	0.934	0.05	**NS**
6.	Musculoskeletal Disorders	1.753	1	0.185	0.05	**NS**
7.	Endocurin	0.534	1	0.465	0.05	**NS**
8.	CNS	0.500	1	0.480	0.05	**NS**

9.	Cardiovascular Diseases	0.065	1	0.799	0.05	**NS**

[Sources: Computed Primary data]
(S and N.S denotes Significant and Not Significant at 5% level), (C.S - Chi-Square, A.S - Asymp. Sig, R- Results)

It is explained from the above analysis that the levels of significance for all types of morbidity conditions like injuries/accident, skin diseases, respiratory diseases, eye diseases, gastrointestinal diseases, musculoskeletal disorders, endocurin, CNS, cardiovascular diseases are more than P value (0.05). Hence, working days does not affected on these all types of morbidity conditions. It is evident from Table 1.4.6 that as the level of significance for all morbidity condition level is more than P value (0.05). **The null hypothesis is accepted**.

Hence, it is concluded that there is no significant relationship between the working days and level of morbid conditions of the respondents. It shows that working days do not affect the level of morbid conditions.

RELATIONSHIP BETWEEN WORKING HOURS AND LEVEL OF MORBIDITY CONDITIONS OF THE SWEEPER'S - *Kruskal Wallis Test*

To test whether there is any relationship between working hours and level of morbid conditions of the sweeper's. The following null hypothesis has been framed.

Null Hypothesis:
"There is no significant relationship between working hours and level of morbidity conditions of the sweeper's".

To test the null hypothesis, the Test has been applied and the results are shown in Table 11.

Table 11
Relationship between working hours and Level of Morbidity Conditions of the sweepers - Result of Kruskal Wallis Test

S.No	Level of Morbidity Conditions	CS	DF	AS	P	R
1.	Injuries/Accident	1.329	1	0.249	0.05	**NS**
2.	Skin Diseases	1.666	1	0.197	0.05	**NS**
3.	Respiratory Diseases	0.007	1	0.935	0.05	**NS**
4.	Eye Diseases	0.000	1	0.989	0.05	**NS**
5.	Gastrointestinal Diseases	0.233	1	0.629	0.05	**NS**
6.	Musculoskeletal Disorders	1.997	1	0.158	0.05	**NS**
7.	Endocurin	2.573	1	0.109	0.05	**NS**
8.	CNS	0.280	1	0.596	0.05	**NS**
9.	Cardiovascular Diseases	0.104	1	0.747	0.05	**NS**

[Sources: Computed Primary data]
(S and N.S denotes Significant and Not Significant at 5% level), (C.S - Chi-Square, A.S - Asymp. Sig, R- Results)

It is noticed from the above analysis that the levels of significance for all types of morbidity conditions like injuries/accident, skin diseases, respiratory diseases, eye diseases, gastrointestinal diseases, musculoskeletal disorders, endocurin, CNS, cardiovascular diseases are more than P value (0.05). Hence, working hours does not affected on these all types of morbidity conditions. It is evident from Table 1.4.7 that as the level of significance for all morbidity condition level is more than P value (0.05). **The null hypothesis is accepted**.

Hence, it is concluded that there is no significant relationship between the working hours and level of morbid conditions of the respondents. It shows that working hours does not affect the level of morbid conditions.

RELATIONSHIP BETWEEN METHOD OF GARBAGE COLLECTION AND LEVEL OF MORBIDITY CONDITIONS OF THE SWEEPER'S - *Jonckheere - Terpstra Test*

To test whether there is any relationship between working hours and level of morbid conditions of the sweeper's. The following null hypothesis has been framed.

Null Hypothesis:
  "There is no significant relationship between method of garbage collection and level of morbidity conditions of the sweeper's".
  To test the null hypothesis, the Test has been applied and the results are shown in Table 12.

Table: 12
Relationship between method of garbage collection and Level of Morbidity Conditions of the sweepers - Result of Jonckheere - Terpstra Test

	Injuries diseases	skin diseases	Respiretory diseases	Eye diseases	Gastrointestinal diseases	Musculoskeletal diseases	Endocurin	CNS	Cardiovascular diseases
Number of Levels in garbage collection	3	3	3	3	3	3	3	3	3
N	72	72	72	72	72	72	72	72	72
Observed J-T Statistic	431.500	451.000	345.000	575.000	434.500	490.500	454.500	406.500	506.500
Mean J-T Statistic	404.500	404.500	404.500	404.500	404.500	404.500	404.500	404.500	404.500
Std. Deviation of J-T Statistic	62.381	58.877	66.919	66.168	65.084	67.316	62.422	62.734	63.581
Std. J-T Statistic	.433	.790	-.889	2.577	.461	1.278	.801	.032	1.604
Asymp. Sig. (2-tailed)	**.665**	**.430**	**.374**	**.010**	**.645**	**.201**	**.423**	**.975**	**.109**

[Source: Computed Primary Data]

  It is noticed from the above analysis that the levels of significance for all types of morbidity conditions like injuries/accident, skin diseases, respiratory diseases, eye diseases, gastrointestinal diseases, musculoskeletal disorders, endocurin, CNS, cardiovascular diseases are more than P value (0.05). Hence, working hours does not affected on these all types of morbidity conditions. It is evident from Table 1.4.7 that as the level of significance for all morbidity condition level is more than P value (0.05). **The null hypothesis is accepted**.

  Hence, it is concluded that there is no significant relationship between the working hours and level of morbid conditions of the respondents. It shows that working hours does not affect the level of morbid conditions.

FINDINGS OF THE STUDY
The following findings are bringing out the present study:
1. It is found from the survey that most (29.20%) of the respondents are belongs to the Age Group of 26 to 30 years and 31 to 35 years.
2. It is evident from the analysis that majority (68.10%) of the respondents are Male.
3. It is found that most (48.60%) are earning the Income Level is Below Rs. 10,000.

4. It is revealed that majority (59.70%) of the respondents are Married.
5. It is explained that majority (65.30%) of the respondents are having above 15 years of experience.
6. Table 1.1 explained that majority (63.90%) sweepers are Illiterate.
7. It is shows that majority (80.60%) have a Permanent Job.
8. It is exposed that majority (68.10%) sweepers are working Less than 5 days.
9. It is noticed that majority (76.40%) are working Less than 8 hours.
10. It is discovered that majority (81.90%) are collecting the garbage through Wheel Borrows.
11. It is exposed that majority (90.30%) higher authorities are not conducting the training programmes for healthy and safety work to the sweepers in this study area.
12. It is analyzed that majority (73.60%) respondents are receiving Partial Insurance from the Government.
13. Table 1.2 revealed that majority (52.80%) of the sweepers are affected Laceration under the morbidity of Injuries/Accident.
14. It is naked that majority (56.90%) of the sweepers are infected by Fungal Infection under Skin Diseases.
15. It is analyzed that most (26.40%) of the sweepers are suffering from Chronic cough and Running nose under the morbidity of Respiratory diseases.
16. It is found that most (27.80%) of the sweepers are infected in Redness and Watering under the morbidity of Eye Diseases.
17. It is established that most (37.50%) of the sweepers are affecting the Leptospirosis under the morbidity of Gastrointestinal Diseases.
18. It is explained that most (31.90%) of the sweepers are infected the Wrist and Hand under the Musculoskeletal Disorders.

RESULT OF TESTING OF HYPOTHESES:

19. It is evident from Table 1.4.2 that as the level of significance for nine morbidity conditions is more than P value (0.05). **The null hypothesis is Accepted**. Hence, it is concluded that there is no significant relationship between the age and level of morbidity conditions of the respondents. It shows that age does not affect morbidity conditions of respondents.
20. It is evident from Table 1.4.2 that as the level of morbidity conditions for seven morbidity conditions is more than P value (0.05). **The null hypothesis is accepted**. Hence, it is concluded that there is no significant relationship between the marital status and level of morbidity conditions of the respondents. It shows that marital status does not affect the morbidity conditions of the sweepers.
21. It is evident from Table 1.4.3 that as the level of morbidity conditions for six morbidity conditions is more than P value (0.05). **The null hypothesis is accepted**. Hence, it is concluded that there is no significant relationship between the gender and level of morbidity conditions of the respondents. It shows that gender does not affect the morbidity conditions of the sweepers.
22. It is evident from Table 1.4.4 that as the level of morbidity conditions for eight morbidity conditions is more than P value (0.05). **The null hypothesis is accepted**. Hence, it is concluded that there is no significant relationship between the experience and level of morbidity conditions of the respondents. It shows that experience does not affect the morbidity conditions of the sweepers.

SUGGESTIONS

➢ Majority 90.30% higher authorities are not conducting the training programmes for healthy and safety works to the sweepers in this study area. So, the government should be conducting awareness programme for increasing their healthy level, providing technical equipments, face mask, clouse, slippers, to appoint more number of workers, provide medical checkup to the sweepers on every month etc.,

➢ Most 48.60% are earning the Income Level is below Rs. 10,000. Hence the researcher suggested that to increasing salary for developing their standard of living.

➢ Majority 56.90% of the sweepers are infected by Fungal Infection under Skin Diseases. So, the government should take necessary step to provide free medical treatment for affected sweepers by skin deceases through primary health center nearly.

➢ The government should initiate special scheme for sweepers only.

➢ Majority 52.80% of the sweepers are affected Laceration under the morbidity of Injuries/Accident. The researcher opined that providing free medical treatment for injured sweepers, providing productive equipments, earned leave and creates awareness to protecting their health through drama, short films etc.,

CONCLUSION

       This present study concludes that majority of the sweepers are affected by injuries/ accident, skin deceases, Gastrointestinal Diseases and utilization of personal caring equipments were pitiable. Hence, the study must be conducted to develop the health services and create awareness on usage of PPE through any other sensitization programmes.

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