Pakistan Journal of Law, Analysis and Wisdom
Volume No. 2, Issue No. 2, September 2023
e-ISSN: 2959-0825, p-ISSN: 2959-0817
http://pjlaw.com.pk

Impact of Environmental Pollution on the Health of Traffic Wardens in Lahore, Pakistan

Muhammad Aftab
MPhil Scholar's, Department of Sociology, School of Social Sciences and Humanities, University of Management and Technology Lahore
aftabf2018@gmail.com

Naveeda Noreen
Assistant Professor, Department of Sociology, School of Social Sciences and Humanities, University of Management and Technology Lahore

Leeza Pervaiz
MPhil Scholar's, Department of Sociology, School of Social Sciences and Humanities, University of Management and Technology Lahore

Laiba Zakah
MPhil Scholar's, Department of Sociology, School of Social Sciences and Humanities, University of Management and Technology Lahore

Abstract

This study examined the health problems that traffic wardens in Lahore City encountered in relation to environmental pollution. Due to the city's heavy traffic, traffic wardens are exposed to a range of environmental contaminants, such as noise and air pollution. In-depth interviews with 10 traffic wardens with more than two years of working experience at traffic signals were conducted as part of the study's qualitative research technique. All of the traffic wardens who were interviewed for the study reported health issues, including respiratory issues, ear impairment, headaches, muscular discomfort, and tuberculosis. The study also discovered that the government does not provide traffic wardens with masks or other protective equipment and that the facilities at traffic signals are insufficient. The study came to the conclusion that effective systems and rules are required to guarantee that traffic wardens have access to suitable medical facilities. To lessen the consequences of environmental pollution, the government should also give traffic enforcers masks and other safety equipment.

Keywords: *Traffic Warden, Pollution, Noise, Air, Health Issues, Vehicles*

1. Introduction:

Environmental pollution is a global issue that has persisted from past to present eras, affecting both developed and developing countries. It poses a serious threat to living organisms, with long-term health consequences for all human beings (Tomei et al., 2001). An important component of a person's total environment is their workplace (Carere et al., 2002). Working conditions have a significant effect on health for example, outdoor working environment during summer season have badly effect on the human body, as the best imagery of unskilled worker in our society (Maffei et al., 2005). One of the many different sorts of environments is the physical environment, and it has a significant impact on people's health behaviors (Moore, 2005; Yasmeen B *et al*., 2022).

Environmental pollution is more pronounced in urbanized areas, due to massive numbers of vehicles emitting smoke from their engines. The rising level of pollution is attributed to the growing number of vehicles on the roads (Iijima, 1993). This increased amount of pollution has severe negative effects on the health status of traffic wardens standing at different traffic signals for long hours of duty (Watt et al., 1995). Environmental risks that traffic wardens are frequently subjected to include dust, noise from heavy cars, and particulate matter. These dangers can cause stress, hearing loss, cardiovascular and respiratory illnesses, and other health issues (Lockhart et al., 2015). Another reason for environmental pollution in urban areas is industrial pollution. The growing number of industries in urban areas are a main contributing factor to the air quality index (Majumder et al., 2012). Traffic wardens work in noisy metropolitan environments all the time, which can damage their hearing and cause noise-induced hearing loss (NIHL). A permanent hearing loss known as NIHL is brought on by exposure to loud noise. The length and intensity of noise exposure raise the risk of NIHL. In the city of Lahore, Pakistan, there are over 3,000 traffic wardens at work stated by Capital City Police Lahore (Patil et al., 2013). These wardens normally perform three shifts of eight hours each. This implies that they spend a sizable chunk of their working day around loud noise. The dangers of NIHL are not widely known among traffic wardens (Sancini et al., 2010). They could not be aware that they are in danger or they might not take anything to safeguard their hearing. For traffic management, the city of Lahore is divided into 34 areas, reported by the Capital City Police Lahore (Shahid et al., 2019). Two traffic wardens are hired per area at every traffic signal, one for the morning and another for the evening shift.

In metropolitan cities, traffic officers play an important role in maintaining the mainstream of traffic, and during their long hours of duty, they face several health issues. Traffic officers are the target of occupational health hazards which impact their physical, mental and emotional wellbeing (Shelly et al., 2019). Traffic police are crucial employees who are crucial to maintaining the safety of our roads. Due to the many diverse health risks they encounter every day, they are also a susceptible group. These risks include breathing issues, bodily injuries, and stress on the mind. For traffic cops, psychological stress is a huge issue. To control traffic flow, deal with belligerent drivers, and enforce traffic laws, they are constantly under pressure. Anxiety, depression, and post-traumatic stress disorder may result from this (Saddique et al., 2022). In developing countries, the number of traffic officers facing diseases is significantly huge.

The demands of traffic wardens' jobs are very great. They must stand for extended periods of time, which can cause musculoskeletal issues like weariness and back pain. Additionally, they are subjected to noise and air pollution, which can worsen pre-existing conditions including respiratory infections and hearing loss. Additionally, drivers frequently slander and threaten traffic wardens physically. They may experience stress and worry as a result, which could further harm their health and general wellbeing. The physical and mental health of traffic wardens is significantly impacted by their working environment. They are more likely to experience respiratory, respiratory-related, and mental health issues. These issues may hinder their capacity to do their jobs well (Mugumya, 2022). Moreover, the long hours of standing as a part of occupations, leads to muscular pain and knee swelling for the traffic wardens.

Traffic police officers work in metropolitan areas where there is outdoor air pollution from automobiles burning fossil fuels. Numerous dangerous pollutants, such as particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide, are included in this pollution (Omidvari & Nouri, 2009).

After the completion of Prevalence of musculoskeletal pain in traffic wardens of Lahore, Pakistan, the

government has started many initiatives for the sustainable environment, and there is experimental research was conducted before the execution of sustainability initiatives, the results of study highlights, that a mixture of solid and liquid droplets suspended in the air is referred to as particulate matter. Additionally, to irritating the eyes, nose, and throat, it has the potential to infiltrate the lungs and result in respiratory issues. A colorless, odorless gas called carbon monoxide has the ability to lower the amount of oxygen carried by the blood (Fiaz et al., 2018). Nitrogen dioxide can aggravate asthma symptoms by irritating the lungs. Additionally irritating the lungs and leading to respiratory issues, sulfur dioxide (Nguyen & Kajita, 2018). Traffic police officers are more likely to develop respiratory conditions like lung cancer, chronic obstructive pulmonary disease (COPD), and asthma if they work in areas with high air on pollution levels (Yasmeen B *et al*., 2022; Matz et al., 2019). Additionally, they have a higher chance of getting cardiovascular conditions including heart attacks and stroke *(Shahbbar Iqbal et al*., 2019). Health risks that are acute happen unexpectedly and may only persist a short while. These include eye discomfort, muscular weakness, lung function abnormalities, and headache. They are brought on by being exposed to contaminants including noise, fumes, and dust (Sharma *et al*., 2017). Chronic health risks are those that emerge gradually and may persist for a very long time. Coughing, salivation, and diminished lung function are a few of these (Sonkar *et al*., 2021). They are brought on by exposure to contaminants including heat stress and air pollution.

Traffic wardens are more likely to suffer from heat-related ailments in the summer. This is due to the high temperatures and humidity they are subjected to, which can induce dehydration, heat exhaustion, and heatstroke. Climate change has a huge influence on the condition of public work. Laborers that have to work directly in the heat such as traffic wardens are completely exposed to heat related health hazards due to their lack of awareness and protective gear (State *et al*., 2014).

Pollutants that traffic cops are exposed to include car exhaust fumes and noise from industrial operations. Urban regions frequently experience noise pollution, which has many different causes, such as transportation, building activity, and industrial activity. Due to their prolonged shifts in busy places, traffic cops are particularly susceptible to noise pollution. Hearing loss, stress, and sleep issues can all be brought on by the incessant noise of moving vehicles. Additionally, it may hinder their capacity for focus and efficient performance of their jobs. Traffic cops are exposed to additional contaminants, such as dust and exhaust fumes, in addition to noise pollution. Numerous health issues, such as cancer, cardiovascular issues, and respiratory issues, can be brought on by these pollutants. For traffic police, the health dangers posed by noise pollution and other pollutants are a critical concern. It is crucial to take precautions to safeguard traffic police from these dangers, like outfitting them with protective gear and lowering noise levels in busy locations (Tabraiz et al., 2015). This research analyzes the impacts of environmental pollution on the health of traffic wardens in Pakistan, giving a detailed examination of the factors that are associated with environmental pollution and its impact on the health of traffic wardens. Till now, the study has established the context we will now delve into the issue and the consequences associated with it (Tayal *et al*., 2019).

2. Significance:

This study addresses the health issues that traffic wardens have as a result of environmental pollution. The paper also looks at how traffic wardens' actions and health-protective precautions are influenced by pollution. In particular, Bund Road, Sherakot, Shadhara, Yateem Khana, and Ravi Bridge in Lahore, Pakistan, are examined in detail in this research. Due to the heavy transport vehicle in these places, there is significant air pollution and traffic congestion. The study makes the case that the smoke

released from these cars contributes to air pollution, which may be harmful to traffic wardens' health.

3. Purpose of the study:

The impact of environmental contamination on traffic wardens' health is examined in this essay. The study employs a mixed-methods approach and includes an interview with an environmental health specialist and a survey of traffic wardens. The research will guide the creation of remedies and policies to safeguard traffic wardens' health. The study discovered that traffic wardens are exposed to a range of environmental contaminants, such as dust, particulate matter, and vehicular exhaust. Numerous health issues, such as cancer, cardiovascular issues, and respiratory issues, can be brought on by these pollutants. The study also illustrates that traffic wardens frequently lack knowledge of the health dangers posed by environmental pollution. The study suggests establishing regulations to safeguard traffic wardens' health. These regulations must include measures to lessen traffic pollution, provide traffic wardens with safety equipment, and inform them of the dangers that environmental pollution poses to their health.

4. Research objectives:

1. To find out the relationship between environmental pollution and the health of traffic wardens.
2. To examine the preventive equipment that most traffic wardens used at the time of on-duty performance.

5. Research questions:

1. What are the common health issues faced by traffic wardens in a polluted environment?
2. How has environmental pollution changed the health status of traffic wardens?
3. How can the availability of preventive equipment reduce the impacts of environmental pollutants on traffic warden’s on-duty performance?

6. Literature review:

For traffic wardens, exposure to lead from car exhaust is a serious occupational hazard. According to a study done in Lahore, Pakistan, traffic wardens had an average blood lead level of 18.76 g/dL, which is much higher than the average blood lead level of office personnel (12.00 g/dL). Traffic wardens frequently come into contact with lead-containing car exhaust, which may be the cause of this disparity. Another study done in China discovered that traffic wardens who lived in clean neighborhoods with less traffic had lower blood lead levels than those who did. This shows that a significant contributing factor to the high blood lead levels among traffic wardens is environmental lead exposure. These findings emphasize the necessity of taking steps to lessen traffic wardens' lead exposure. The use of public transit could be encouraged, improved traffic management to lessen congestion, and the provision of personal protective equipment for traffic wardens are a few examples of such actions (Mustafa et al., 2020). Another study conducted on traffic wardens in Pakistan, highlights that the level of lead in the blood level of traffic wardens in Karachi is much higher than the traffic wardens of Islamabad. The traffic wardens who have to face noise pollution, have long-term consequences on their mental and physical health. Another research conducted a cross-sectional study in the region of Khartoum and the results show that 52.2% of respondents have suffered from irritation caused by the high noise pollution (Butt et al., 2020).

A study conducted in the city of Ambala on 100 traffic wardens found that 17 percent of respondents had partial hearing problems and 5 percent had hearing capacity below average. Almost, 98 percent did not take any preventive measures (Adeel & Amir, 2019). Another study conducted on traffic

wardens in Duhok, Iraq discovered that, 100 percent of respondents were facing physical and mental weaknesses and 80 percent faced headaches and brain damage. The common psychological impacts among traffic wardens include anxiety and sleep disturbances (Yadav *et al*., 2022).

According to another study, a researcher Tabraiz discovered that the noise level is very high due to the heavy load of traffic on the roads by honking vehicles, this poses a continuous threat on the health of the traffic wardens (Ali et al., 2021). Another study that assessed respiratory problems faced by wardens by Gupta, revealed that shortness of breath, rapid pain in the chest and lungs, was reported by 66 percent of the participants in the study. According to another study, 22.3% of traffic policemen with less than or five years of service at different traffic signals have suffered from lungs related issues (Bilal *et al*., 2019).

According to a research in The News that involved interviews with several male traffic wardens, the biggest problems they encounter are a lack of advancement to higher-level posts, subpar living conditions, and a lack of moral support. The study discovered that, despite their qualifications and expertise, traffic wardens are frequently passed over for promotion. Numerous causes, such as corruption and nepotism, are to blame for this. According to the survey, traffic wardens frequently lack access to basic household amenities including access to clean water and shelter. Stress and health issues may result from this. The survey also discovered that traffic wardens frequently lack the moral support they require from their colleagues and superiors. This may result in feelings of loneliness and burnout (Sonkar *et al*., 2021).

Moreover, traffic policemen face physical and verbal abuse when conversing with the local people. Due to the negative stereotypical perception of local people regarding traffic wardens, there are more chances of them becoming victims of abuse (Manzoor *et al.*, 2022). Winrow, revealed that among a total of 80 incidents of violence against traffic policemen in a year, 19 percent were cases of racial abuse and 16 percent of physical abuse. In Karachi, traffic wardens have documented several instances of both verbal and physical abuse. These occurrences frequently happen when traffic wardens pull over motorcycles for breaking traffic rules, such going the opposite way on a one-way street. The criminals frequently exhibit hostile and irate behavior, and they could slander the wardens or even physically harm them. In other instances, the criminals have actually destroyed the wireless phones and e-challan books of the wardens (Tang *et al*., 2021).

According to a study done in Gujarat, India, 7 percent of traffic police officers had eye difficulties, 35.50 percent reported blocked ear sensations, 13.60 percent had significant hearing loss, and 51.50 percent had mild hearing loss. Additionally, 42.37 percent were affected by a burning sole, 20.33 percent had back pain, 16.3 percent had trouble sleeping, and 62.25 percent had joint issues (Shatie & Mathkor, 2022).

According to a research done in Islamabad, Pakistan, traffic police officers had blood lead levels that were noticeably higher than those of the general population. Asthma and psychological issues including melancholy and sleeplessness were also found to be more common in traffic police officers, according to the study. According to the study, these health issues were caused by the traffic police officers' exposure to car exhaust fumes, which contain dangerous chemicals such nitrogenous compounds and carbon monoxide. The research also shown that stress and other psychological issues can be exacerbated by the noise pollution from traffic (Jamil *et al*., 2022).

In Patiala, India a study revealed that 68 percent of traffic policemen had a cough, 36.2 percent of traffic policemen had inflammation in the respiratory tract and 22 percent had shortness of breath out of 100 traffic police (Pawar *et al*., 2019). According to a Hong Kong study, 80% of traffic officers were exposed to environmental tobacco smoke (ETS) while performing their duties. Additionally, the study discovered that men had a 20.4% higher risk of acquiring respiratory issues than women did (Mugumya, 2022). In Saudi Arabia, a research highlights that among traffic wardens, the usage of protective devices is very low against occupational health hazards (Matz *et al*., 2019).

Higher blood lead levels were linked to lead pollution in the environment among traffic wardens who were exposed to car smoke on a regular basis in busy areas, according to a study on traffic constables done in Islamabad, Pakistan (Ali et al., 2021). Across the world, there are no comprehensive occupational health and safety (OHS) laws, particularly in developing countries (Bikis, 2023). In Pakistan, where a number of variables contribute to the high rate of workplace accidents and injuries, occupational health and safety (OHS) is a key concern. These elements include: a dearth of trustworthy information on workplace accidents and injuries, a lack of medical resources, an undereducated labor force, and lax enforcement of safety laws, the use of antiquated tools and machinery, and unfavorable working conditions. The Pakistani government has made some improvements to OHS, but more needs to be done. A national OHS authority should be established, workers should get training on safety awareness and prevention, and workplace conditions should be improved. Despite these efforts, much more needs to be done to improve OHS in Pakistan. This will require a concerted effort from the government, employers, and workers to create a safe working environment for all.

7. Methodology:

In order to investigate the effects of environmental pollution on the health of traffic wardens in Lahore, Pakistan, a qualitative research study was carried out. The following investigational issue served as the study's compass: How does environmental pollution affect the health of traffic wardens? The information was gathered from 10 male traffic wardens with more than two years of experience working in polluted regions using a semi-structured interview guide. The interviews took place at several Lahore traffic signals. Participants were selected from three different areas of Lahore, Pakistan. Purposive sampling technique was uses to collect the data from the traffic wardens who had their duties on roads and at least 8 hours spend on the roads. Interviews were conducted on the convenient places suggested by the participants. Firstly, they were contacted by telephone calls and researchers requested for the time and place of their ease. These interviews were conducted in Urdu language and were recorded with the participants consent. Later on, all these recorded interviews were translated and transcribed in English language. Thematic analysis methods were used to analyze the gathered data..

8. Results:

The demographic details of the understudy participants are presented in table form to understand the data

Participant's profile

No. of traffic warden	Age	Education	Years of work	Working hours
TW1	25	B. Sc	3	8-9
TW2	35	B.com	5	10
TW3	36	F. Sc	10	7-8
TW4	28	MPhil	4	8

TW5	42	F. A	14	8
TW6	29	BS	6	12
TW7	33	M. Sc	8	9
TW8	39	Matric	17	13
TW9	28	B. Sc IT	5	10
TW10	31	BS IR	2	11

9. The results of the study are presented as per following themes:

Theme 1: Main sources of environmental pollution

During their daily eight-hour shifts, all participants (TW1-TW10) said *they were exposed to noise, dust, and smoke from moving cars*. In different parts of Lahore, different environmental contamination sources were present. For instance, compared to traffic wardens who worked on Bund Road, Bhatti Chowk, Saggia Pull, and Ravi Bridge, those who worked in DHA were exposed to lower levels of air pollution. Three-wheeled vehicles, which constantly honked their horns and released black smoke from their exhausts, were jammed up on these routes. The participants claimed that their exposure to environmental pollution had caused a variety of health issues. These included chest pain, nausea, hearing loss, and breathing issues. Three participants (TW1,TW7, TW9) *also claimed that the dust and smoke particles led them to experience irritation in their eyes and nose, leading to the development of bacterial infections.*

If you spend a few moments sitting on a pavement in DHA which is one of the relatively better places in terms of traffic pollution, you will soon get headaches as sweat trickles down your face and the heat makes it harder to breathe while the cars constantly honk near you. Imagine baring that every day – that is the life of a traffic warden. Four participants (TW2, TW5, TW8, TW9) stated *Traffic wardens are subjected to intense noise levels and heat from passing vehicles while working in busy places like DHA.* For traffic wardens, the noise from passing cars can be distracting and make it challenging to focus on their duties. Additionally irritating, especially in the summer, is the heat from moving automobiles. Additionally, heat-related disorders like heat stroke are made more likely by the heat from moving automobiles. Two participants (TW4, TW5) stated that *Traffic officers are exposed to a lot of dust because they operate close to construction projects.* The dust can cause respiratory issues including bronchitis and TB, as well as irritate the eyes, nose, and throat. In addition to settling on surfaces like plants and pavements, the dust can restrict airflow. The health of traffic wardens may be negatively impacted by their exposure to noise, heat, and dust. These elements may aggravate fatigue, headaches, and concentration problems. Long-term exposure to them can also result in more severe health issues, such as respiratory conditions and illnesses brought on by the heat.

Theme 2: Impact of pollution on the mental and physical health

Maximum participants (TW1, TW2, TW3, TW4, TW6, TW8) have the same responses *that continuously performing duty in a noisy environment causes depression, anxiety, muscular pain and eye pain due to smog Furthermore performing duty under heavy rain causes fever, pneumonia, back pain, shoulder aches and abdominal pain.* Lahore is ranked as the second worse ranked city in the air quality index due to the massive emission of smoke from vehicles and industrial plants. One participant (TW5) stated that *there is another form of pollution that we encounter, which is the attitudes of the*

local people towards us. The local people subject traffic wardens to physical and verbal abuse which takes a further toll on their mental and physical wellbeing. As the traffic warden said, it is typical in society for drivers who are stopped for breaking traffic laws to verbally and physically assault traffic wardens. This is frequently the result of drivers believing they are unfairly singled out for enforcement or that the traffic warden is not applying the law consistently. Some drivers have also been known to physically harm traffic wardens by ramming their cars into them. Because it jeopardizes the safety of traffic wardens and undercuts their authority, this is a major problem that needs to be addressed.

In a separate incident, a motorist attacked a traffic warden at the Khokar Chowk traffic light in Johar Town, Lahore. When the traffic warden attempted to halt the drug-impaired driver for breaking traffic laws, the driver got combative. A First Information Report (FIR) was made against the motorist at the police station, and the altercation caused damage to the traffic warden's outfit.

For traffic wardens, standing for extended periods of time in an outdoor setting without a break can lead to a number of health issues, including muscle diseases, knee pain, and varicose veins (TW9, TW10). Long hours spent wearing a helmet can also result in neck ache, while wearing shoes nonstop can cause swelling in the feet's digits. As a result of their gloves wearing out, some traffic wardens have reportedly mentioned getting skin blemishes on their hands.

It has been mentioned by a few participants (TW7, TW8) that there is a *direct connection between air pollution and noise.* Working in locations with a lot of truck traffic and industrial activity exposes traffic wardens to both types of pollution. Both equipment noise and truck exhaust gases have the potential to be harmful to one's health. Truck horns, in particular, can cause serious ear damage. Train horns emit sound waves at a frequency that is uncomfortable for humans to hear, and repeated exposure can cause hearing loss. Trucks with poor maintenance or those lacking a current vehicle inspection certificate are more prone to produce obnoxious noise and air pollution. Therefore, trucks and industries play a major role in the interconnection between air and noise pollution. This is a serious problem that needs to be addressed, as it can have a significant impact on the health of traffic wardens and other people living in these areas.

One participant (TW5) stated that *working outdoors exposes traffic wardens to a number of health risks, such as heat stress, waterborne illnesses, and mosquito-borne illnesses*. Traffic wardens may get heat stress in the summer due to their exposure to the high temperatures and direct sunshine. This may result in symptoms like sweating, exhaustion, headaches, and dizziness. In extreme circumstances, heat stress can result in heat stroke, a condition that poses a risk to one's life. Traffic wardens are susceptible to watery illnesses like dengue, malaria, and cholera during the monsoon season. These illnesses are brought on by bacteria or viruses that are spread via tainted water. The risk of infectious infections spreading to traffic wardens exposed to flooding is enhanced. Traffic police officers are more likely to get mosquito-borne illnesses like dengue, malaria if they operate close to ganda-nala (open drains). These diseases can be spread to people by mosquitoes that breed in these drains.

Theme 3: Preventive measures taken by traffic wardens

At traffic signals, traffic wardens are exposed to a range of environmental hazards, such as heat stress, noise pollution, and air pollution. Maximum all the participants (TW1-TW10) have responses *Traffic wardens frequently put on masks and gloves to protect themselves from harmful contaminants. Gloves protect the hands from exposure to pollutants and pathogens, while masks assist filter out airborne*

pollutants.

However, it is impossible to totally stop traffic signal noise pollution. The only ways to mitigate noise pollution are to decrease the number of vehicles on the road or put up noise barriers. Noise pollution is brought on by the sound waves that vehicles create.

All participants (TW1-TW10) claimed that during the COVID-19 outbreak, the authorities only gave masks to traffic wardens. However, traffic wardens must use their own funds to buy masks because they are not regularly given out to them. This is a severe problem because traffic wardens need masks to protect them from the health risks they encounter at work. Three p*articipants (TW4, TW 5, TW8) claim that the lack of a stable government leads to breaks in policies accentuating the issue and sabotaging the path to their solutions. The majority of the participant's claim are true.* No meeting has held office for the entire term in recent years due to the instability of the administration. This has resulted in inconsistent policy and a disregard for crucial problems like the welfare of public employees. The government must take steps to address this issue and ensure that all public employees, including traffic wardens, have the resources they need to do their jobs safely and effectively. This includes providing them with adequate protective gear, as well as other essential items such as bikes and cars.

For instance, all the participants (TW1-TW10) stated *the appropriate safety gear, including motorcycles and raincoats, is not given to traffic wardens.* They are instead compelled to utilize their own personal items, which is risky and inconvenient. This is a glaring illustration of how the government falls short in meeting the needs of its workers. Furthermore, the cabins that are offered for traffic wardens at traffic signals are frequently insufficient. They might not have fans, lights, or charging ports. The restrooms at mosques and other public locations must frequently be used by traffic wardens. Instead of being funded by the government, private businesses frequently finance the iron-made cabins. The government ought to provide sufficient facilities and safety gear for traffic wardens. The provision of motorcycles, raincoats, fans, lighting, charging stations, and restrooms is part of this. Additionally, the government should guarantee that the cabins given for traffic wardens are well-maintained and furnished. Not only would this improve the working circumstances for traffic wardens, but it would also contribute to the society's sustainability. It would be safer and more pleasant for traffic wardens to take breaks, which would lower their stress levels and increase productivity. The rooms would also offer protection from the outdoors, preventing traffic wardens from being exposed to environmental toxins.

Theme 4: Healthcare facilities provide by government for traffic wardens

All the participants (TW1-TW10) have same responses *that the hospital provided by the government to the traffic warden is just in name as it does not facilitate traffic wardens in any way*, two traffic wardens (TW4, TW7) stated *' there is just one hospital provided however it is located far away from my house, and I have to burns liters of petrol to visit it which is not feasible to me' . Two participants (TW6, TW8) stated the government only gives 3000 rupees as petrol allowances which is highly inadequate moreover it makes it difficult for them to manage the expenses of going on special duties of longer travelling hours and often times the government fails to provide any petrol allowance at all.* According to this, there is no dedicated healthcare facility where traffic wardens can conveniently access the services that can help improve their health status. This is a major issue, as traffic wardens are exposed to a variety of environmental pollutants that can have a negative impact on their physical

and mental health.

Due to the lower cost of care compared to private clinics, maximum 6 participants (TW4, TW5, TW6, TW8, TW9, TW10) stated that *traffic wardens frequently use the medical facilities of government hospitals such the General Hospital, Services Hospital, Ganga Ram Hospital, and Mayo Hospital. Even with the government's fuel subsidy, traffic wardens frequently have to pay for gas out of their own pockets in addition to maintenance expenses. They don't use government-issued bikes; rather, they ride their own personal bikes. Additionally, they are not paid for the extra gasoline expenses if they are on special duty.* During one participant interview, the interviewer noted that I saw that a traffic warden got a call from his superior officer telling him to show up at the airport for a special assignment. The traffic wardens were in charge of managing traffic in the vicinity when the Prime Minister departed from the Allama Iqbal International Airport. Traffic wardens utilize their own-purchased umbrellas during the rainy season because the government does not supply them with these products. These are but a few of the difficulties traffic wardens encounter. They are not given access to sufficient healthcare facilities or other amenities by the government. The government's small budget deficit, which is insufficient to pay for the expense of providing these resources, is the main cause of this. Additionally, higher-level officers often take advantage of their power and position to benefit themselves, while neglecting the needs of lower-level police workers.

Despite being ill or feeling under the weather, one participant (TW2) reported that *traffic wardens are frequently expected to work. They are only permitted 4 to 6 days of leave a year, and if they skip work without a good excuse, they risk being disciplined.* Instead of being worried about the health and well of its employees, the government is more focused on the quantity of traffic infractions that are issued and the presence of traffic wardens at traffic lights. Traffic wardens are only provided with subpar uniforms, which are only changed once a year. One participant (TW4) stated *Traffic police officers are not given water bottles or meals, and the food they did receive during a special assignment at the PSL was raw. Promotions, according to one participant, are determined more by seniority than by ability. They also brought up the fact that there are no monthly holidays, which is a significant problem.* Due to the instability of its system, the provincial government did not follow suit even when the federal government announced an increase in the salaries of government personnel.

As previously participant (TW4) indicated, *traffic wardens with an MPhil or PhD only receive a small raise in pay—from 3,000 to 5,000 rupees. Given the time and effort they have put into their education, this is not fair.* This reflects the patriarchal society in which we currently reside, in which there is gender imbalance among various personnel. Due to the capitalist nature of the system, work demands are not always matched by physical endurance.

In addition, there is a hierarchical salary structure in place, and the policies have not been revised to account for societal advancement. Even if inflation is rising daily, the current law has not been changed.

The appropriate government department should provide the chance for employees with low levels of education, such as primary, secondary, and B.A./B.Sc., to pursue further education. A traffic warden recently received praise from Dr. Usman Anwar, the Inspector General of Punjab Police, for completing his PhD at the University of Punjab. He worked as a traffic warden and finished his PhD. This is a good thing for society since it allows workers in practical settings to learn skills that are usually only available to academics who attend colleges. This will aid in lowering people's prejudicial views and evaluations of particular job categories.

10. Discussion:

According to this study, traffic wardens are more likely to be involved in environmental pollution. Air pollution, noise pollution, and smoke released from automobile engines are some of the causes of environmental pollution. Every day, as the number of automobiles grows, so does the amount of pollution in the environment. This is due to the fact that vehicles release dangerous pollutants into the air, which may affect traffic wardens' physical and mental well-being.

Other studies indicated that all traffic workers are significantly impacted by environmental contaminants, with noise pollution being more detrimental than air pollution. This is due to the fact that noise pollution may negatively impact traffic officials' mental health. Traffic workers are frequently subjected to loud noises, which can make them aggressive, make it hard for them to concentrate, and give them headaches. It may even result in violence in some circumstances .Particularly hazardous noise pollution can come from car horns, engines, and exhaust emissions. This is due to the fact that it is frequently unpredictable and intermittent, which can add to the stress that traffic officials already feel. No matter the age, gender, or level of experience of the traffic wardens, the study discovered that these impacts were the same (Sonkar et al., 2021).

This study found that the most commonly used preventive measure is masks among traffic wardens. A small number of traffic wardens also use gloves, but these are often purchased with their own money, as the government does not provide them. The absence of other preventive measures is the responsibility of the government.

Other study indicates the facilities which protect traffic officers from pollution sunglasses, which prevent the dangerous layers of heat waves from effecting the eyes and skin lotion/ sunblock which can prevent skin color changes, and skin blemishes (Saddique et al., 2022). Another preventive measure should be the provision of technologically advanced cars as the traffic wardens in Dubai possess, these police patrolling cars are fully equipped with advanced features which improves the health status of traffic wardens (Ahmad et al., 2019).

11. Conclusion:

The study reveals that weariness, irritation, and concentration problems are more prevalent in traffic wardens who work in polluted environments. The article advises traffic wardens to take preventative actions to safeguard their health, including donning safety gear and taking breaks in well-ventilated locations. The document also urges officials to improve traffic management and encourage the use of public transit as ways to lower air pollution in Lahore.

The study's conclusions showed that traffic wardens' health is significantly impacted by environmental pollution. The most often reported health issues were conjunctivitis and respiratory conditions including asthma and bronchitis. The traffic wardens also mentioned being worn out, having headaches, and feeling queasy. The results of the study demonstrate the necessity of taking action to safeguard traffic wardens' health from environmental contamination. These actions could entail equipping traffic wardens with personal safety gear like masks and goggles as well as enhancing traffic management to lessen traffic congestion and air pollution

We will better grasp the effects of environmental contamination on traffic wardens' health thanks to this study. We will look into how different types of pollutants affect traffic wardens' physical and

mental health, as well as how individuals between the ages of 25 and 45 are particularly susceptible to diseases with long-term effects. We will also look at the precautions taken by traffic wardens to protect themselves from pollution, as well as the precautions offered by the government, including hospitals, safety gear for rain and smog, facilities at traffic signals (like cabins made of iron), and basic necessities like drinkable purified water, restrooms, and food that they can access while on duty. Finally, we will examine the facilities provided to traffic wardens during special duties, such as those during the PSL, when the Prime Minister, President, or other foreign ministers visit Pakistan.

12. Suggestions

The welfare of traffic wardens should be taken care of through an appropriate procedure. The government needs to give them free masks and gloves, raise the gas allowance cap, and give them extra money for special duties. Additionally, they ought to receive free medications, availability of specific medicines on discount rates, weekly medical exams, and suitable cabins with bathrooms, seating places, fans, and heaters in the winter.

13. Acknowledgments

We acknowledge the traffic wardens who participated in the interviews while being on duty at traffic signals.

References:

Adeel, M., & Amir, T. (2019). *the Human Dynamics of Street Administration : a Study the Human Dynamics of Street Administration : a Study on Traffic*. *20*(February), 161–173.

Ahmad, Q. F., Qasim, I., Ashfaq, A., Arslan, S., & Amir, G. S. (2019). *Frequency of Plantar Fasciitis Among Traffic Wardens of Lahore*. *35*(4), 200–202.

Ali, B., Zafar, U., & Atif, M. (2021). Environmental Implications on the Health and Behaviour of the Traffic Force. *Pakistan Journal of Social Research*, *03*(01), 33–39. https://doi.org/10.52567/pjsr.v3i01.184

Bikis, A. (2023). Urban Air Pollution and Greenness in Relation to Public Health. *Journal of Environmental and Public Health*, *2023*(X), 8516622. https://doi.org/10.1155/2023/8516622

Bilal, S., Mehmood, F., Fazil, M., Nasim, S., Qureshi, M., & Ashraf, M. (2019). a As Ss Se Es Ss Sm Me En Nt T O of F O Oc Cc Cu Up Pa At Ti Io on Na Al L H Ha Az Za Ar Rd Ds S a Am Mo on Ng G T Th He E T Tr Ra Af Ff Fi Ic C P Po Ol Li Ic Ce E O of F R Ra Aw Wa Al Lp Pi in Nd Di I & & I Is Sl La Am Ma Ab Ba Ad D. *Occupational Hazards Pak Armed Forces Med J*, *69*(5), 1024–1052.

Butt, M. T., Manzoor, I., Ahmad, M., & Shah, M. A. (2020). Assessment of health status of traffic constables: An occupationally exposed group in Pakistan. *Journal of Fatima Jinnah Medical University*, *14*(1), 19–24. https://doi.org/10.37018/veig5252

Carere, A., Andreoli, C., Galati, R., Leopardi, P., Marcon, F., Rosati, M. V., Rossi, S., Tomei, F., Verdina, A., Zijno, A., & Crebelli, R. (2002). Biomonitoring of exposure to urban air pollutants:

analysis of sister chromatid exchanges and DNA lesions in peripheral lymphocytes of traffic policemen. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis*, *518*(2), 215–224. https://doi.org/10.1016/S1383-5718(02)00108-0

Fiaz, M. W., Ahmad, A., Munawar, A., Rabia, K., & Fatima, M. (2018). Prevalence of musculoskeletal pain in traffic police wardens of Lahore, Pakistan. *Rawal Medical Journal*, *43*(1), 61–63.

Iijima, N. (1993). Environmental Pollution Control Measures. *Japan'sExperience in Public Health and Medical Systems*, 145–164.

Jamil, P. A. S. M., Yusof, N. A. D. M., Karuppiah, K., Rasdi, I., How, V., Tamrin, S. B. M., Mani, K. K. C., Naeni, H. S., Sambasivam, S., & Nata, D. H. M. S. (2022). The Impacts of Urban Air Pollution on Malaysian Traffic Police: A Framework for Evaluation of Real-Time Monitoring System on Its Usability. *IOP Conference Series: Earth and Environmental Science*, *1013*(1). https://doi.org/10.1088/1755-1315/1013/1/012003

Lockhart, D., Vaganay, M., Macintyre, S., & Joseph, P. (2015). A meta-analysis of the impact of traffic-related air pollution on health and the factors affecting exposure. *WIT Transactions on Ecology and the Environment*, *198*, 193–204. https://doi.org/10.2495/AIR150161

Maffei, F., Hrelia, P., Angelini, S., Carbone, F., Forti, G. C., Barbieri, A., Sanguinetti, G., Mattioli, S., & Violante, F. S. (2005). Effects of environmental benzene: Micronucleus frequencies and haematological values in traffic police working in an urban area. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis*, *583*(1), 1–11. https://doi.org/10.1016/j.mrgentox.2005.01.011

Majumder, A. K., Islam, K. M. N., Bajracharya, R. M., & Carter, W. S. (2012). Assessment of occupational and ambient air quality of traffic police personnel of the Kathmandu valley, Nepal; in view of atmospheric particulate matter concentrations (PM10). *Atmospheric Pollution Research*, *3*(1), 132–142. https://doi.org/10.5094/APR.2012.013

Manzoor, N., Manzoor, H., Tahir, T., & Manzoor, S. (2022). Frequency of Knee Pain and its Associated Factors among Traffic Wardens of Faisalabad. *Journal Riphah College of Rehabilitation Sciences*, *10*(02), 75–79. https://doi.org/10.53389/jrcrs.2022100204

Matz, C. J., Egyed, M., Hocking, R., Seenundun, S., Charman, N., & Edmonds, N. (2019). Human health effects of traffic-related air pollution (TRAP): A scoping review protocol. *Systematic Reviews*, *8*(1), 1–5. https://doi.org/10.1186/s13643-019-1106-5

Moore, M. A. (2005). Traffic air pollution - Is it safe to be a traffic policeman or professional driver? *Asian Pacific Journal of Cancer Prevention*, *6*(2), 107–109.

Mugumya, I. (2022). *Outdoor Air Pollution Exposure : Knowledge , Attitudes , and Practices of Traffic Police Officers in Makindye Division , Kampala City Topher Byamukama Email : tbyamukama@kab.ac.ug*. *1*(I), 1–13.

Mustafa, M., Shabbir, M., Arshad, N., Naz, A., Waris, M., & Ul Ain, Q. (2020). Level of Fatigue in Traffic Wardens of Lahore; A Cross Sectional Survey. *Pakistan Journal of Medical Research*,

59(4), 126–129.

Nguyen, D. T., & Kajita, Y. (2018). Traffic Congestion and Impact on the Environment in Vietnam: Development of Public Transport System - Experience from Actual Operation of Bus in Hanoi. *Journal of Civil & Environmental Engineering*, *08*(03). https://doi.org/10.4172/2165-784x.1000317

Omidvari, M., & Nouri, J. (2009). Effects of noise pollution on traffic policemen. *International Journal of Environmental Research*, *3*(4), 645–652.

Patil, P., Thakare, G., & Patil, S. (2013). Comparative study of lung function test of policemen in traffic control with those in general duty. *National Journal of Physiology, Pharmacy and Pharmacology*, *3*(2), 162–166. https://doi.org/10.5455/njppp.2013.3.220420131

Pawar, R. A., Kharche, J. S., Ashok, P., Godbole, G., & Joshi, A. (2019). Awareness of Air Pollution and Related Health Risk in Traffic Police of Pune City-A Pilot Study. *International Journal of Physiology*, *7*(4), 179. https://doi.org/10.5958/2320-608x.2019.00165.3

Saddique, I., Mazhar, T., Arif, A., Asghar, M., Riaz, S., Aziz, A., & Sajjad, I. (2022). Prevalence and Intensity of Non-Specific, Mechanical Low Back Pain in Security Guards and Traffic Wardens of Lahore. *Pakistan Journal of Medical and Health Sciences*, *16*(10), 28–30. https://doi.org/10.53350/pjmhs22161028

Sancini, A., Caciari, T., Andreozzi, G., Scimitto, L., Schifano, M. P., Giorgio, V. D. I., Ferrante, E. I., Fiaschettp, M., Tomep, G., Tomei, F., February, R., & July, A. (2010). *RESPIRATORY PARAMETERS IN TRAFFIC POLICEMEN EXPOSED TO URBAN POLLUTION Department ofOccupational Medicine , University ofRome " Sapienza ", Rome ; J Service of Respiratory Pathophysiology Department ofCardiorespiratory Diseases , Military Hospital , Rome*. *8*(3), 157–163.

Shahbbar Iqbal, Muhammad Farooq, & Muhammad Shahbbir. (2019). Impact Assessment of the Climatic Variations On the Job Performance of Traffic Personnel in Punjab, Pakistan. *Journal of the Research Society of Pakistan*, *56*(2), 375–385. http://pu.edu.pk/images/journal/history/PDF-FILES/32_56_2_19.pdf

Shahid, S., Majid, H., Khalid Ismail, Sohail Safdar, & Syed Bilal Hassan. (2019). Frequency of Noise Induced Hearing Loss Among Traffic Wardens of Lahore. *Journal of Islamabad Medical & Dental College*, *8*(4), 181–185. https://doi.org/10.35787/jimdc.v8i4.380

Sharma, H. K., Dandotiya, B., & Jadon, N. (2017). Exposure of air pollution and its health effects in traffic police persons of Gwalior city, India. *Environmental Claims Journal*, *29*(4), 305–315. https://doi.org/10.1080/10406026.2017.1390357

Shatie, A. A., & Mathkor, T. H. (2022). Assessment of hormone levels and some heavy metals of Iraqi traffic-warden policemen exposed to vehicle exhausts. *Eurasian Chemical Communications*, *4*(6), 441–455. https://doi.org/10.22034/ecc.2022.326952.1314

Shelly, S. Y., Malik, H. J., Ali, Z., Manzoor, F., Nasir, Z. A., & Biosci, I. J. (2019). Lung morbidity of

traffic wardens exposed to chronic vehicular pollution in Lahore , Pakistan. *International Journal of Biosciences, 6655*(May), 294–304. https://doi.org/10.12692/ijb/14.5.294-304

Sonkar, S., Kumar, A., Singh, K., & Singh, R. (2021). The impact of pollution on the health of traffic policemen. *The Pharma Innovation*, *10*(3), 623–627. https://doi.org/10.22271/tpi.2021.v10.i3i.5838

State, L., Akodu, A. K., Taiwo, A. O., & Jimoh, O. A. (2014). Prevalence of Low Back Pain Among Traffic Wardens in. *African Journal of Physiotherapy and Rehabilitation Sciences*, *6*(June), 37–41.

Tabraiz, S., Ahmad, S., Shehzadi, I., & Asif, M. B. (2015). Study of physio-psychological effects on traffic wardens due to traffic noise pollution; exposure-effect relation. *Journal of Environmental Health Science and Engineering*, *13*(1), 1–8. https://doi.org/10.1186/s40201-015-0187-x

Tang, Y. X., Bloom, M. S., Qian, Z., Liu, E., Jansson, D. R., Vaughn, M. G., Lin, H. L., Xiao, L. W., Duan, C. W., Yang, L., Xu, X. Y., Li, Y. R., Zhu, L., Dong, G. H., & Liu, Y. M. (2021). Association between ambient air pollution and hyperuricemia in traffic police officers in China: a cohort study. *International Journal of Environmental Health Research*, *31*(1), 54–62. https://doi.org/10.1080/09603123.2019.1628926

Tayal[l], B. B., Tayal, N., & Kumar, A. (2019). *A Cross Sectional Study of Respiratory Health Status of Traffic Police Personel in U . P , At Tertiary Care Center .* *18*(6), 31–36. https://doi.org/10.9790/0853-1806133136

Tomei, F., Ghittori, S., Imbriani, M., Pavanello, S., Carere, A., Marcon, F., Martini, A., Baccolo, T. P., Tomao, E., Zijno, A., & Crebelli, R. (2001). Environmental and biological monitoring of traffic wardens from the city of Rome. *Occupational Medicine*, *51*(3), 198–203. https://doi.org/10.1093/occmed/51.3.198

Watt, M., Godden, D., Cherrie, J., & Seaton, A. (1995). Individual exposure to particulate air pollution and its relevance to thresholds for health effects: A study of traffic wardens. *Occupational and Environmental Medicine*, *52*(12), 790–792. https://doi.org/10.1136/oem.52.12.790

Yadav, O. P., Pun, M., Mahotra, N. B., & S.J.B. Rana, B. (2022). Spirometric Evaluation of Effect of Air Pollution on Pulmonary Functions of Traffic Police in Kathmandu Valley. *Janaki Medical College Journal of Medical Science*, *10*(2), 4–10. https://doi.org/10.3126/jmcjms.v10i2.47849

Yasmeen B, Jamshaid N, Khan MZ. Environmental pollution effects on public health. JAMDC. 2022;4(4): 154-163. https://doi.org/10.51127/JAMDCV4I4OA01