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OCCUPATIONAL HEALTH PROBLEMS AMONG TRAFFIC POLICEMAN IN AL-NAJAF CITY: A CROSS- SECTIONAL STUDY

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ABSTRACT

Background: Occupational health hazards and injuries are an alarming concern among traffic police. Occupational injuries affect the physical, social, and mental well-being of police personnel, which has various public health implications.

Objective: Study conducted to identify the most common occupational health issues (physical, psychological, and environmental) among traffic police personals

Methodology: A cross-sectional study was conducted from December 2024 to March 2026 in Najaf, Iraq, with a sample of 144 traffic police officers selected using a non-probability purposive sampling method. Data were collected using a structured questionnaire consisting of two parts: the first for demographic data, and the second an occupational health scale comprising 25 items covering physical, psychological, and environmental aspects.

Results: The results showed that the majority of participants (75.69%) had a moderate level of occupational health, while 21.53% had a good level, and a low percentage (2.78%) were classified as having a poor level. The study also revealed that traffic officers are constantly exposed to harmful environmental factors such as high temperatures, air pollution, noise, and vehicle exhaust, which negatively impact their physical and mental health.

Conclusion: The study concludes that traffic officers face moderate occupational health challenges and recommends improving the work environment, providing preventative measures, and strengthening awareness programs and regular checkups.

KEYWORDS: occupational, health, traffic, policeman**.**

INTRODUCTION

Traffic police are integral to urban administration. They police traffic regulations and ensure road safety while facilitating the efficient flow of motorized traffic on public thoroughfares. Although these public officials are vital to society, they have not garnered significant attention in scholarly studies. Limited research has examined the issues encountered by traffic police and analyzed the socio-ecological factors influencing their employment; among the myriad challenges they confront, health and well-being are the most prominent concerns (Garbarino & Magnavita, 2025).

Traffic police play an essential role in upholding the nation's laws, rules, order, and safety-security. They are engaged in overseeing the city's transportation system. They guarantee that vehicles can navigate the road unobstructed. Their duties encompass regulating traffic at intersections, resolving roadside traffic conflicts, and administering fines for violations of traffic laws (Jahan et al., 2023).

Occupational health and safety is a key facet of human welfare. It seeks to adapt the working environment to employees to promote and sustain the highest levels of physical, mental, and social well-being across all professions (Morgan, 2018). Occupational health risks are Injuries, illnesses, or diseases arising from certain work, typically due to prolonged exposure to certain toxins or repetitive physical actions (Panta & Neupane, 2024).

Traffic police personnel are often subjected to numerous environmental conditions, including heat, ultraviolet radiation, noise, fumes, honking horns, airborne dust, and exhaust from vehicles, rendering them vulnerable to health ailments (Yadav et al., 2022).

Mental health issues among traffic management officers stem from long hours, environmental stress, and the critical responsibility for public safety. Factors like traffic congestion and noise elevate stress, potentially leading to sleep disturbances and mental fatigue. This poor mental health can impair attention and reaction times essential for traffic management. Therefore, using reliable assessment tools to evaluate these mental health problems is crucial, as it aids in recognizing the psychological challenges faced by officers and supports the creation of strategies to enhance working conditions and mental well-being (Patil et al., 2014).

Several studies have shown that specific individuals are more susceptible to air pollution according to their occupations. Traffic officers endure elevated levels of air pollution while traversing congested roadways for prolonged durations, experiencing delays in traffic or awaiting at bus stops (Hassan et al., 2024).

METHODOLOGY

Study Design

A cross sectional study is conducted from December 20th, 2024 and March 24th, 2026, at the different traffic dissections of Najaf governorate, among 144 traffic polices who were selected. The participants of this study included traffic constables on roads performing their duty during the process of data collection, and the current study was carried out at traffic directors in Al-Najaf City, and traffic policeman were informed and briefed on the purpose of the study.

Study Setting

The study was conducted in Al-Najaf Al-Ashraf City / Najaf at Al-Najaf Al-Ashraf Traffic Directorate, and a non-probability, purposive sampling technique used to select **144** traffic management officers to be included in the present study. Sample of the study was selected based on the following criteria:

Inclusion Criteria

1. The traffic policemen engaged in traffic management duties.
2. The traffic policemen over 18 years old.

Exclusion Criteria

1. The traffic policemen on leave or not directly involved in traffic management.
2. Newly recruited traffic policemen with less than three years of experiences.

Data Collection

After we obtained prior permission and informed consent from the Traffic Police Directorate, data was collected on a questionnaire through an interview, and Closed-ended questions were included in the survey. The questionnaire was based on two components. First covering socio-demographic profile, and the second covering questionnaire contents three aspects it is physical health status, mental health status and environmental aspects, and all of them are within a single scale consisting of 25 question.

Part I: Sociodemographic Data

his part of the questionnaire is content the demographic data that concerned with the collection of the basic socio-demographic data that comprises of eight items about the traffic police man characteristics, including age, marital status, years of service, level of education, job position, number of daily working hours, work system, and work place.

Part II: Occupational Health Issues Scale

This scale contains 25 items distributed during physical, psychological concerns and environmental problems.

This questionnaire was designed by the researcher by dependent on literature and reviewed by experts; its validity and reliability were measured before it was distributed to the research population.

RESULTS

Table (1) Descriptive statistics (frequency and percentage) for the demographic data of traffic officers

Demographic data		Freq. (N=144)	Percent. (%)
Age / Years	30-35	46	32 .0
	36-41	50	34.7
	42-47	18	12.5
	48-53	15	10.4
	54-59	15	10.4
Marital Status	Married	129	89.6
	Single	9	6.2
	Divorced	3	2.1
	Widowed	3	2.1
Educational Status	Primary	27	18.8
	Intermediate	46	31.9
	Secondary	44	30.5
	Diploma	20	13.9
	Bachelor's or higher	7	4.9
Years of experience	5-14	112	51.4
	15-24	66	30.3
	≥ 25	40	18.3
Job Position	Traffic Officer	4	2.8
	Traffic Policeman	140	97.2
Daily Working Hours	< 8	104	72.2

	> 8	40	27.8
Work System	Morning shift	79	54.9
	Evening shift	52	36.1
	Rotating shifts	13	9.0
Workplace	City center	40	27.8
	Highways	39	27.0
	Residential areas	18	12.5
	Commercial areas	26	18.0
	Checkpoints	21	14.6

Demographic data descriptive statistics for traffic officers are depicted in table (1). The majority (34.7%) of the traffic officers were in the 36–41 years age band, which places most members of this occupation in middle age. Most participants were married (89.6%), which was consistent with an officer family status. With respect to level of education, 31.9% and 30.5% possessed intermediate and secondary academic qualifications respectively which indicated more than two third officers had completed mid-level formal schooling while only few had at least a bachelor degree (4.9%). For the level of experience, over half (51.4%) of the sample had work experiences ranged 5–14 years, indicating that it was a rather experienced group in nature. The most of the participants were traffic policemen (97.2%) instead of officers and majority of them worked daily for less than 8 hours (72.2%). The morning shift was the most frequent work schedule (54.9%), while working in the city center and on highways were the most common places of work (27.8% and 27.1%, respectively), reflecting that traffic accidents mainly occurred in high-traffic urban areas or on freeways.

Table (2): Descriptive statistics of traffic officers' subgroups according to their occupational health

Scales		Traffic officers' Subgroups		
		Poor	Moderate	Good
Occupational Health	Frequency	4	109	31
	Percentage	2.78	75.69	21.53

Table (2) indicated that the majority of traffic officers were in the moderate classification of occupational health scale 75.69% (n = 109) exhibit moderate degree in levels of occupational well-being, and 21.53% (n = 31) had good level of creditability as far as their occupational well-being status was concerned, and 2.78% (n = 4) from traffic management officers was classified with poor occupational health (figure 1). This OD showed that not necessarily a serious harm occurred to the occupational health but in general, traffic officers are always under considerable and continuous physical and psychological stress warmth that may be harmful to their future welfare.

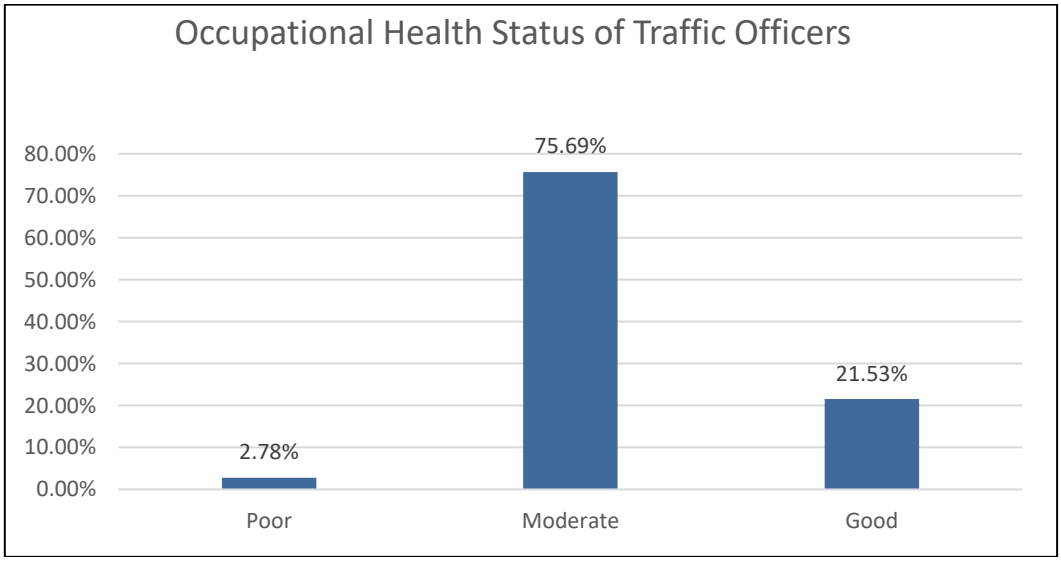

Figure (1): Percentage of traffic officers' subgroups according to their occupational health

Table (3) ANOVA table for the difference in the overall assessment occupational health among traffic officers' subgroups classified according to their demographic data

Demographic data		Mean	SD	F Test	P value
Age / Years	30-35	75.65	9.41	8.1	0.000

	36-41	75.80	8.22		
	42-47	80.06	8.99		
	48-53	85.47	6.74		
	54-59	85.93	7.12		
Marital Status	Married	78.29	9.23	4.18	0.007
	Single	72.33	7.19		
	Divorced	85.67	0.58		
	Widowed	91.67	1.15		
Educational Status	Primary	77.44	8.07	0.74	0.56
	Intermediate	77.44	9.02		
	Secondary	80.20	10.61		
	Diploma	77.00	8.05		
	Bachelor's or higher	79.57	10.24		
Years of experience	1-5	75.60	7.64	20.31	0.000
	6-10	82.87	9.50		
	> 10	91.57	9.09		
Job Position	Traffic Officer	79.75	10.97	0.09	0.76
	Traffic Policeman	78.31	9.28		
Daily Working Hours	< 8	78.85	10.08	1.08	0.3
	> 8	77.05	6.78		
Work System	Morning shift	79.20	9.05	2.81	0.06
	Evening shift	76.15	8.57		
	Rotating shifts	81.92	12.01		
Workplace	City center	77.23	8.25	1.11	0.35
	Highways	79.31	8.99		
	Residential areas	80.67	13.64		
	Commercial areas	75.88	7.93		
	Checkpoints	79.76	8.68		

One Way ANOVA was used to compare overall occupational health among traffic officers based on selected demographic characteristics are illustrated in table (3). With respect to current findings presented in (Table 3), there are high significant relationships that are found between occupational health issues and their characteristics (age, Marital Status, and Years of experience), are high significant with $P<0.05$ (0.001, 0.007, and 0.001) respectively.

DISCUSSION

Regarding these three health issues, the researcher found that the overall assessment of occupational health issues of traffic management officers exposed moderate assessment (79.86 %). According to above mentioned findings the occupational health issues of traffic policeman who participated in this study was moderate and inadequate.

Unexpectedly, the results of the occupational health issues for traffic management officers were moderate, which indicates that the traffic policeman do not have enough orientation towards occupational health issues.

(Jahan et al., 2023), conducted a research to assess occupational health issues in South Asia, and agreed with current results for occupational health issues which (75.69 %) of participant had moderate information.

Similarly, French study conducted by (Anders et al., 2024), assessed police officer occupational health, and for each of domains they found the following outcome, for physical aspect was similar to current study which a lot of traffic policeman showed have occupational physical. Also, (Rijal, n.d.)agreed with present findings regarding physical and psychological aspects that effected on the traffic policemen in which majority of traffic policeman reported moderate in occupational health issues. Also, regarding total scale of occupational health issues about 75.69% of traffic policeman revealed moderate knowledge which is steady with present study findings.

Furthermore, Australian study that conducted by (Boyanagari et al., 2018), disagreed with present study and reported that the occupational health level among traffic management officers regarding occupational health issues (physical, psychological, and environment) showed that was small compared to the current study.

Regarding the age and effected on occupational health of traffic policeman who working in traffic intersection showed in (Table 4.3), the present study has shown high relationship (P-value > 0.05) between the overall assessment occupational health and the age in this study. Panta & Neupane, (2024), which have confirmed, that there was a relationship between age and occupational health, the study confirmed that the older traffic police officers get, the more health problems they experience.

Regarding the material status of the traffic policeman showed in this table (3), the present study has shown high significant (P-value > 0.05) between the overall occupational health issues and material status. On the other hand, there were high statistically significant differences about years of experience it indicates that years of experts affect occupational health of the traffic officers in our study, and was high significant (P-value > 0.05). As for the educational level, the findings of

the study showed no relationship between educational level and occupational level at (P-value <0.05). Iraqi research, conducted in Kurdistan region by Hassan et al., (2024), and had consistent findings with present study regarding daily working hours, work system, and workplace in which no significant relation was appeared among traffic policeman.

CONCLUSION

The study found that the nature of the work of traffic police officers in Iraq exposes them to a number of health, environmental and psychological challenges as a result of working in different climatic conditions, exposure to noise and air pollution, and direct interaction with road users. The results indicate that these factors may affect the physical and psychological health of workers, highlighting the importance of improving the work environment, strengthening occupational health and safety procedures, and providing the necessary support to reduce occupational risks.

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Authors Contribution

Mu. Sa.: Conceptualization of the study, literature search, data collection, statistical analysis, manuscript writing and editing. MA.AB. FA: contributed to the conceptualization of the study, assisted in data collection and analysis, participated in drafting and revising the manuscript, provided critical feedback throughout the research process and helped shape the final version of the article.
All authors equally contribute to this study.

Conflict of Interest: The authors declare no conflict of interest.

Ethical Considerations: study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical considerations in this study included the fact that participation was entirely optional.

Transparency of Data: In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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