

Methods

This cross-sectional study was conducted from February to October 2017 and included bus, minibus, rickshaw, taxi and private vehicle occupational drivers in Karachi. The drivers were selected through quota sampling technique which allowed comparison among stressors experienced by bus, rickshaw, taxi and private vehicle drivers. Four quotas were formed consisting of 96 occupational drivers in each quota, making a total sample size of 384 drivers; this was calculated using *OpenEpi* (at 50% anticipated frequency). Occupational drivers who were ≥ 18 years old and who drove vehicles as a part of their work for ≥ 6 hours daily and with ≥ 1 year of experience (irrespective of their vehicle ownership) were included. Drivers who refused to give informed consent or had any diagnosed mental illnesses or any history of psychological or emotional problems were excluded.

A self-administered questionnaire was used to collect detailed information on sociodemographic characteristics, medical history and stress-inducing factors. A Likert scale was used for checking the severity of the stressor (15). Questions were adapted and modified from relevant previous studies (16,17). For the face validity of the questionnaire, public health professionals were asked to review it. The questionnaire consisted of a total of 35 questions and took approximately 20–30 minutes to complete. Once the data were collected, they were verified by cross comparison of 10 randomly selected hard copies of the dataset with entered data.

Data were analysed using SPSS, version 21. Chi-squared and the Fisher exact test were used to assess the relationship between categorical variables and to check the correlation between socioeconomic variables and stress-inducing factors. The results were considered significant at $P < 0.05$.

Ethical approval was taken from the institutional review board of Jinnah Sindh Medical University, Karachi (approval letter no. JSMU/IRB/2015/-22). Before initiating the survey, we briefed the *munshi* (time keeper/focal person) who monitors the arrival and departure of buses at major bus stands/stops in detail to keep them informed regarding the purpose and objectives of the study. Informed consent (both verbal and written) was obtained from all participating drivers before administering the questionnaire, and participants were informed that they were free to withdraw their participation at any time during the study.

Results

A total of 384 occupational drivers completed the questionnaire. The mean age was 36.80 [standard deviation (SD) 10.74] years (Table 1); 220 (57.3%) of the drivers were ≤ 37 years old while 164 (42.7%) were > 37 years. The religion of 381 (99.2%) drivers was Islam; only 3 (0.8%) belonged to other religions. Among all the participants, 233 (60.7%) were able to read and write. The mean number of family members of the occupational drivers was 6.65 (SD 2.32); 253 (65.9%) with ≤ 7 family members and 131

Table 1 Sociodemographic characteristics of the occupation drivers in the study sample (n = 384), Karachi, 2017

Sociodemographic characteristics	No.	%
Age (years) (n = 384)		36.80 (0.74) ^a
≤ 37	220	57.3
> 37	164	42.7
Religion (n = 384)		
Islam	381	99.2
Other	3	0.8
Education status (n = 384)		
No formal education	151	39.3
Formal education	233	60.7
No. household members (n = 384)		6.65 (2.32) ^a
≤ 7	253	65.9
> 7	131	34.1
Total monthly household income (PKR) (n = 384)		21507 (5552) ^a
≤ 20 000	231	60.2
> 20 000	153	39.8
Mother language (n = 384)		
Urdu	158	41.1
Pushto	82	21.4
Punjabi	43	11.2
Hindko	50	13
Sindhi	24	6.3
Other	27	7
Any substance abuse (n = 384)		
Yes	259	67.4
No	125	32.6
Substance use (n = 259)		
Acacia catechu products	117	30.5
Quid (naswar)	73	19
Cigarettes	68	17.7
No. of packs (quids/cigarettes) per day (n = 261)		2.85 (2.55) ^a
≤ 3	164	62.8
> 3	97	37.2
Occupation history (n = 384)		
Hours of driving per day		11.93 (2.38) ^a
≤ 12	277	72.1
> 12	107	27.9
Years of driving		
≤ 13	164	42.7
> 13	97	25.3

^aMean and standard deviation.

PKR = Pakistani rupees.

(34.1%) had > 7 family members. The mean total monthly household income of drivers was 21 507 (SD 5552) Pakistani rupees (Table 1).

Substance abuse was found in 259 (67.4%) occupational drivers; 117 (30.5%) used *Acacia catechu* products, 73 (19%) used quid (*naswar*) and 68 (17.7%) smoked cigarettes