

## ORIGINAL ARTICLE

# Frequency Distribution of Demographic Variables among the Victims of Burns of Domestic Violence – A cross-sectional study

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## ABSTRACT

**Background:** Burns are common occurrences of daily routine. The working environment and accidents invariably result in burns which unfortunately cannot be stopped. There definitely are certain factor which need to be assessed and addressed. Demographic variables like that of age, gender, marital status, family size, gross family income, literacy grades and occupation could be one of the vital aspects which need further research exploration to see frequencies of burns incidents.

**Aim:** To assess the most involved demographic variables in frequency of burns incidents for domestic violence.

**Methods:** The study population comprised of 250 unfortunate victim of burns of domestic violence reported in the Accident and Emergency Department of Mayo Hospital Lahore between December 2017 to August 2018.

**Results:** The study revealed the minor age groups, females more than males, married adults, average family size, middle socio-economic class, lower grades of literacy and labor class subjects suffer the higher frequencies of burns incidents.

**Keywords:** Age, Gender, Family Size, Marital Status, Income, Literacy Level, Occupation, Burns, Frequency

## INTRODUCTION

Burns and burns incidence are frequently reported in health facilities of medical setups. Burns are frequently involved in common day practices and only those which report to a health facility are registered and available as data for study<sup>1</sup>. The demographic variables play a vital role in understanding, managing and prevention of burns incidents. The most common studied demographic variables include age<sup>2,3</sup>, gender<sup>4,5</sup>, marital status<sup>6</sup>, family size<sup>7,8</sup>, literacy level<sup>9,10</sup>, income<sup>11,12</sup> and occupation<sup>7,13</sup> of the unfortunate victim of burns. The age and gender are most widely studied variables followed by marital status and family size<sup>2-8</sup>. The gross family income and individual literacy standards are also studied and found having great influence on occurrence and prevention of burns on one hand and hospital stay and recovery from such burns on the other hand<sup>7-12</sup>. To have complete emphasis on all aspects right from occurrence<sup>14,15</sup> pattern of injuries<sup>16</sup> type of health facilities<sup>17</sup> to be utilized till to terminal outcome in terms of mortality<sup>18</sup> or survivability<sup>19</sup> the demographic variables play the significant role in addressing the matters of burns which are particularly important to health professionals<sup>20</sup>, government officials<sup>21,22</sup> and law enforcing authorities<sup>23</sup>.

The objective of the study was to assess the most involved demographic variables in the frequency of burns incidents in a metropolitan city for domestic violence.

## MATERIALS AND METHODS

All the cases of burns for current study were enrolled for a period of nine months from the month of August 2017 to the month of August 2018 after permission from IRB who presented in the Accident and Emergency Department of Mayo Hospital and Medicolegal Clinic of the King Edward Medical University Lahore. A total of 250 cases were registered for the current study during the said period of time and at above mentioned study settings. All the subjects were included after agreement to the informed consent and study details for the purpose it is being conducted.

A descriptive cross-sectional study was conducted after choosing the study participants through convenient non-probability and consecutive sampling technique to study the was used for the study purpose. The demographic variable in the demographic

variables frequencies among the victims of burns of domestic violence. A standard but already trialed questionnaire study included age, gender, marital status, family size, family income, literacy level and occupation of the victim/case of burn presented in above described study settings. Standard statistical principals were applied for collection and analysis of the sample and in this regard SPSS version 20.0 were used and for the study analysis on collected sample. Standard statistical tool for the above mentioned demographic variables like graphs and tables were used.

## RESULTS

**Frequency Distribution of Demographic Variables of Burns of Domestic Violence:** Individually the frequency distribution of all the demographic variables of the burns of domestic violence have been studied as shown below. Each variable is presented with a graph or table as per design of statistical tool.

**Age:** The presentation of different age groups was considered in a segmented manner like that of less than one year labelled as infants, those of one year till twelve years were categorized as children, the teen agers and up to 25 years of age were stratified as adolescents, adults were placed in age group from 26 years to 50 years and beyond were grouped as elders.

Table 1: Age Frequency Distribution

Age Group	Frequency	Percent
< 1 year as infants	24	9.6
1 year to 12 years as children	113	45.2
13 years to 26 years as adolescents	3	1.2
26 years to 50 years as adults	38	15.2
> 50 years as elders	72	28.8
Total	250	100.0

Observation depicted maximum frequency by the second age group i.e. 1–12 years children with 113 children making a proportion of 45.2% entire population while the minimum contribution of frequency was seen in age group with limit of 13 – 25 years as those of just 3 adolescents with and hence making 1.2% portion of the population under study.

**Gender:** The second variable of gender frequency distribution was analyzed table

Received on 18-07-2021

Accepted on 22-12-2021

Table 2: Gender frequency distribution

Gender	Frequency	Percent
Female	117	46.8
Male	133	53.2
Total	250	100.0

Gender disparity frequency was analyzed as shown in the table 02 above. The study revealed males being more frequently involved than females with difference of almost 6 to 7% just. Although the difference is minimal but still can be counted as males predilections are common among the cases of burns in domestic violence. The study comprised of 250 subjects of burns. Out of all those, the wide majority of the immature categories like that of neonates and children were excluded and the portion of the adolescents who could not celebrate their 18<sup>th</sup> birth anniversary were also excluded. The remainder 98 subjects were studied and results are shown in table 03 below.

Table 3: Frequency Distribution of Marital Status

Marital Status	Frequency	Percent
Single	33	34
Married	64	65
Divorced/Widows	1	1
Total	98	100.0

The status of marriage was then categorized into single, married and divorced or widowed. The study frequency data revealed there was only one widow/divorced person unfortunately got burnt. The rest of the victims of domestic violent burnt cases included one third as single 34% and two third were unfortunately married persons i.e. 65% falling victims to burns.

**The Family Size:** Family size is an important determinant of the burns case. The family size was stratified into two membered family, three to five membered family and those of more than five membered family. The frequency of the family size was analyzed in following table 4.

Table 4: Frequency Distribution of the Family Size

Family Members	Frequency	Percent
Two Members	5	2.0
3 to 5 Members	157	62.8
More than 5 Members	88	35.2
Total	250	100.0

Generally speaking, the more the family members higher will be the exposure to burns. This could not hold true in current study as shown in table 04 above. The two membered family suffering from burns incidence were just 2% where as those of three to five membered family suffered burns incidences as high as 63%. Surprisingly the family who had more than five members suffered almost half of the frequency of burns to those who were 3 to 5 membered turning out to be 35% only.

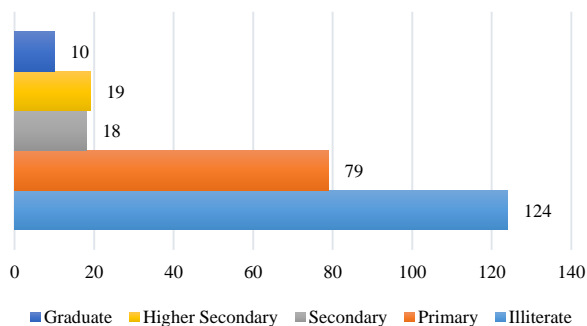
**The Literacy Level:** As it is a fact that more than half of the population under study is comprising of minors and therefore: for them; their care takers, parents or guardians level of literacy was placed into consideration.

The line diagram reveals the frequency distribution of the educational level of the current study participants as illiterates being maximum i.e. 50% or 124 cases of burns among 250 cases of total. Second highest frequency was seen in those having just grade VIII school education as 8% followed by primary grades of school educations 7% only.

Table 5: Occupation's Frequency Distribution

Profession	Frequency	Percent
Less than 18 years	137	54.8
Labor Class	42	16.8
Govt. Servants	9	3.6
Private Sector Workers	29	11.6
House wives	33	13.2
Total	250	100.0

Figure 1: Line diagram showing the frequency distribution of literacy level.



The study revealed the highest frequency of the burnt subjects were in illiterate or the instances where there care takers or guardians of the dependents were illiterate.

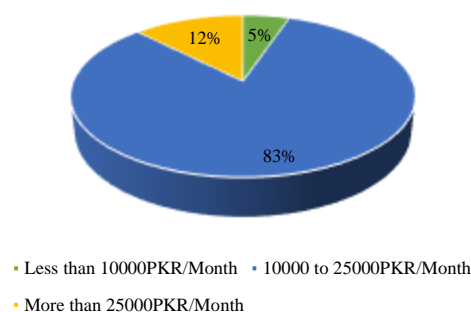
**The Occupation:** The 250 cases of burns incidence as stated above comprise more than half cases as minors being age less than 18 years so cannot be a working class and rest of the study participants were categorized as Labor Class, Government Sector Workers, Private Sector Workers and House Wives as elaborated in the table 05 below.

The occupation of the study participants revealed commonest were those from Labor Class as 17%, followed by House Wives as 13% and third most frequency was found among the Private Sector Workers as 12%. As described above 55% of the population of study occupation could not be assessed as those were minors i.e. having age less than 18 years.

The study revealed Government Sector workers were more protected from fire incidences and the Labor class was most exposed among the adults in fire incidences of domestic violence.

**The Gross Family Income:** The gross family income include the income from all the earning hands of that family. Their accumulative gross family income was calculated and categorized into three sub classes. Those having gross family income of less than 10,000 Pakistan Rupees (PKR) per month, those families with their total income of the entire family members from 10,000 Pakistan Rupees (PKR) per month to 25,000 Pakistan Rupees (PKR) per month and the third or last class was categorized to have more than 25,000 Pakistan Rupees (PKR) per month income of all the family members.

Fig. 2: Gross Family Income



The study revealed the highest frequency of the exposure of the families to burns of those with gross family income from 10,000 Pakistan Rupees (PKR) per month to 25,000 Pakistan Rupees (PKR) per month can be labelled as middle class socioeconomic status back in 2018. It was much as 83% of the cases of burns. The second highest frequency was of those families with gross family income as that of less than 10,000 Pakistan Rupees (PKR) per month as that of 13% while the families with gross family income higher than 25,000 Pakistan Rupees (PKR) per month were as minimal as 5% only.

## DISCUSSION

All the demographic variables and the distribution of their frequencies is hereby discussed as under. The age and gender has been discussed by all the researchers under one category. All the researchers so far in the domain of burns agree with findings depicted in this study while there have been found no study contradictory to the current results as analyzed in this study<sup>2-5</sup>.

Marital status and family size had been studied by a large number of researcher for its role in prevalence and frequency of burns. The findings that married people or persons suffer more than the unmarried people are in agreement with findings of the researchers of Alaghehbandan et al<sup>6</sup> and Alnababtah et al<sup>7</sup> and against the finding of Thomas et al<sup>8</sup>.

The current study revealed as the literacy grades rise the frequency of burns fall. Similarly the likewise association was observed with gross family income when it comes to burns. Literacy standards and gross family income frequencies had been found in consistence with that of most of the researchers<sup>7,11,12</sup>. While income has been found similar frequency association with Reza et al<sup>10</sup> and against the observations of Forjuoh et al<sup>11</sup>.

Occupation has been found having a great role in frequencies of burns incidence in the current study. Sparing the minor which shared a contribution of more than half of the population under study the labourers suffered the most followed by house wives and finally the private service providers. The government servants suffered the least and the observation are in agreement with most of the researchers<sup>7,11-13</sup>. While there have been found no concrete evidence against the observations of the current study.

## CONCLUSION

The study concludes that neonates, infants and children or all the subjects of age less than 12 years are much more vulnerable as compared to the rest of the age groups<sup>2,3,5</sup>. As for as gender distribution of burn frequencies is concerned it was observed that though female preponderance is recorded but there was not big difference<sup>6,8</sup>.

Similarly the frequencies of the married people was grossly more than unmarried people among the victims who attained the age of majority. It was also established illiterate suffered more than those that of higher grades in the ladder of literacy. Hence married subjects and illiterate participants were more vulnerable to burns, the study concluded<sup>5,7,8</sup>.

The study concluded higher the frequencies of the burns higher the members of a family<sup>7</sup>. Similar it was concluded that lower would be the frequencies of the burns as higher becomes the gross family income of the involved families<sup>10</sup>. So it was concluded that with better life commodities and smaller family sizes grossly reduce the frequencies for involvement in burns.

Occupation had been found having direct impact on the frequency of burn incidents. the labourers and poor classes suffered the highest frequencies as compared to that of better income and public sector workers. It is definitely linked with better life commodities, literacy standards and working environment. The poor, laborer and private sector workers lacking the opportunity of standardized life services and housing facilities suffered the most<sup>11,12</sup>.

**Conflict of interest:** Nil

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