

Domestic Traumatism Among the Population and Children, Medical and Social Aspects

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Resume. Domestic traumatism among the population and children remains one of the most important and urgent medical and social problems in all countries of the world, including the Republic of Uzbekistan.

The study showed that in almost all countries of the world, including in our country, as well as in the Khorezm region, where the study is conducted, there is a tradition of increasing injuries among children in 2016-2020. In 2016, childhood injuries were 6.9% of the total incidence rate, up from 9.0% in 2020, and injuries increased slightly by just under 30%. In the region, 60.5% of child injuries were to boys and 39.5% were to girls, with the rate among boys being 1.53 times higher.

Keywords: Injury, indicator, child injury, prevalence, domestic injury, social groups.

Relevance. Domestic traumatism both among children and the entire population is one of the most important and urgent medical and social problems in all countries of the world, including the Republic of Uzbekistan. Trauma is a process that is usually accompanied by a disturbance of the anatomical (cytological and molecular) integrity of tissues in a living organism as a result of a short-term physical impact. A study conducted in the Republic of Tatarstan, Russia, showed that injuries rank fourth in the total number of reported illnesses, second in temporary disability, third in disability and second in death [12]. Child injuries account for 20% of all injuries. In Almaty, children with maxillofacial traumas account for 29.6% of all cases involving maxillofacial diseases. [7]. According to the scientific findings of V.O. Shepin, E.V. Shishkin, 12 thousand injuries and poisonings are registered annually in Russia, 93% of them are traumas. This means that there are 120-130 injuries per 1,000 people. This figure is 100-110 in children, and 160-170 in adolescents. It is noteworthy that all types of injuries, especially among children, have different rates in different regions of the Russian Federation. For example, in 2018, the number of injuries resulting from road accidents in Chilyabinsk District was 142.8 per 100,000 population, and in the Republic of Kalmykia it was 258.5, which is 76.7 times higher than the average for the Russian Federation. According to the authors, there are also peculiarities in the rates of mortality from injuries, in the Chilyabinsk region it is 147 per 100,000 population, while the national average is 116.6 [1]. Analysis of the literature has shown that domestic traumas take the leading place among traumas occurring in children. The second place is taken by street injuries and the third by various types of injuries. In particular, there is a relatively high morbidity among children 5-9 and 15-19 years old, which accounts for 4% of all deaths [2]. Traffic accidents account for 33% of childhood injuries. In particular, 61.3% of traumas in boys 7-15 years old are traumas of the jaw and face, and in girls the figure is 48.7%. It has been found that more than 60% of these injuries in children are due to alveolar swelling and fracture of the tooth [3].

According to M.V. Lebedev et al. (2019), the rate of injuries at home is 74.3% of total injuries, traffic accidents -11.4%, sports injuries -8.6%, school injuries -5.7%. More injuries were sustained among boys as a result of traffic accidents (8.6%) [4]. According to the scientific findings of Hook Victoria (2021), it is noted that the number of children affected in families due to domestic violence in Russia is increasing every year. This figure increased by -3.4% in 2019 compared to 2018, from 96150 to 99382, with the majority of the cases involving juveniles [5]. In particular, it is noted that the number of traffic accidents in Russia increased from 156515 to 223342 during 1997-2005, i.e. almost by 30%, and the majority of them occurred among children under 14 years old, and its rate was up to 527 per 10 000 children [6]. In 2015, there were 1,475 traffic accidents in Tajikistan, 449 people died and 1,576 were injured. The 93 dead and 398 injured were children, 142 of whom were passengers, 169 of whom were pedestrians, 117 of whom were drivers, and 21 of whom were bicyclists. Traffic accidents, injuries and deaths occur more in January-March than in May, June and September. [8].

The results of a scientific study by M.A. Akselrov et al. (2015) show that various thermal burns in children are also considered to be the most common type of injuries, from which death is the third most frequent among deaths from general injuries... Especially among children under the age of 1 year, 92.1% of cases are burns from boiling water and the second place (5.1%) is taken by touching strongly heated objects. 63.2% of those who received thermal burns had burns of various parts of the body, 16.9% had burns of the shin and heel, 12.3% had burns of the hands, and 68.2% had burns of the fingers [9]. According to the World Health Organization, 12-20% of all injuries are thermal burns, of which 8% are domestic injuries in children [10]. Analysis of the results of a scientific study conducted in the Arkhangelsk region showed that 43.3% of the 231 recorded injuries among children under 14 were in the street, 32.5% at home, 12.1% at school, 6.5% in sports 3.0% each, and, traffic accidents, criminal and various injuries 1.3% - 35.6% of 90 recorded injuries among 15-17 year olds were in the street, 25.6% in the home [11].

The urgency of the problem lies in the fact that "Results of injuries, poisoning and other environmental influences", occupying the 19th class of the International Classification of Diseases, is the third cause of death in the Astrakhan region, accounting for 10.8 % of all deaths. Among the total number of deaths in this class, there are deaths mainly from cranial and brain injuries 67.4%, among the able-bodied population this figure is 90.5%. [13]. In Russia, it has been established that the first place for the frequency of injuries to the skull and brain is occupied by domestic injuries (40-60%), the second place by work-related injuries (4-12%), and the fourth place by injuries sustained in sports (1.5-2%). In the total number of injuries that occur in children, cranial and brain injuries account for 40-50%, of which disability accounts for 20-50% [14]. Each year, 1.5 million people die worldwide from various injuries, and 2.4 million people become disabled. Every year in Russia, 600,000 people suffer craniocerebral injuries, 50,000 of them die and more than 5,000 become disabled. The economic damage from them is 500 billion rubles a year [15].

Objective. To study and assess the specific features and prevalence of domestic traumatism in the general population and among children in Khorezm region in 2016-2020.

Materials and methods

In order to study the dynamics of injury prevalence among the general population and children for 2016-2020, we analyzed injury reports from the statistical departments of selected cities and districts of the region. For statistical evaluation were studied Total 383 956 cases of different types of injuries in the last five years, in the studied region and in the selected city Urgench 80213, 29152 in Yangiariq district and 17651 in Koshkupir district, in the study were used socio-hygienic and sanitary-statistical methods.

Results and discussion

In almost all countries of the world, injuries among the population, especially among children, and the resulting significant increase in disability and mortality in subsequent years, remain one of the most pressing medical and social problems for society and the health care system. Particularly in our country, as well as in the Khorezm region where the study is being conducted, it was found that during 2016-2020, injuries among children tend to increase. In Khorezm region in 2016, injuries in children, which accounted for 6.9% of the total morbidity among children, this figure for 2020 was 9.0%, and it was found that the injury rate increased by about 30%. During the years under study, there was no decrease in the number of injuries. According to data in the region, 60.5% of childhood injuries were to boys and 39.5% were to girls, with boys being found to have a 1.53 times higher rate.

Table 1.

Gender distribution of injuries among the total population of Khorezm region for 2016-2020 (in absolute numbers and %)

Years of study	Total number of injuries	In men. (in absolute number and %)	In women. (in absolute number and %)
2016	65018	39170(60,2)	25848(39,8)
2017	76222	47684(62,6)	28538(37,4)
2018	79449	44477(56,0)	34972(44,0)

2019	80535	46092(57,2)	34443(42,8)
2020	82732	54784(66,2)	27948(33,8)
total	383956	232207(60,5)	151749(39,5)

We can see that injuries for men increased 1.4 times in 2020 compared to 2016 and 1.08 times for women, and the frequency of injuries for men is 23% higher. In the years studied, the number of injuries in men increased each year, and in women increased until 2019, and decreased 1.2-fold in 2020 compared to 2019. It was noted that injuries in men account for 10.3% of all diseases in the region, while in women the figure is 6.1%. It can be seen that traumatism among the population of the region is high and increases in men compared to women. (Table 1)

Table 2.

Distribution of injuries by age among the population of Khorezm region (absolute number and %)

Years of study	Total number of injuries	0-14 years old (Absolute number and%)	15-17 years old (absolute number and%)	18 years old and over (Absolute number and %)
2016	65018	14106(21,7)	9822(15,2)	41090(63,2)
2017	76222	19171(25,1)	12122(15,9)	44929(59,0)
2018	79449	15675(19,7)	13087(16,5)	50687(63,8)
2019	80535	16610(20,7)	10499(13,0)	53426(66,3)
2020	82732	16796(20,3)	12879(15,6)	53057(64,1)
total	383956	82358(21,4)	58409(15,3)	243189(63,3)

In Khorezm Province, an analysis of the five-year trauma data studied, by age group, showed that 21.4% of the total number of injuries occurred among children aged 0-18 years old and 29.0% higher than among children aged 15-17 years old, but 63.3% of the total number of injuries were found among adults 18 years and older. This situation was observed in almost all of the years we studied. It is worth noting that there are almost three times (2.95 times) more people injured at the age of 18 and older than at the age of 0-14 years. One aspect that particularly caught our attention in childhood traumatism was the fact that there was an increase in all age groups over the years analyzed, which was found to increase 1.4-fold in 0-14 years, and 1.3-fold in 15-17 years (Table 2).

Table 3.

Injury prevalence among the general population and children in the regions studied (per 1,000 population) (p±m)

Regions studied	Total trauma	Mens	Womens	In children.			18 years old and over
				total	0-14	15-17	
Urgench	114,0±0,37	108,7±0,52	119,3±0,55	96,7±0,53	104,7±0,69	48,9±0,17	122,2±0,47
Kushkupir district	21,3±0,15	27,1±0,25	15,3±0,19	28,2±0,31	23,1±0,30	59,0±1,16	17,6±0,18
Yangiarik district	52,1±0,30	65,9±0,46	37,9±0,36	68,3±0,59	30,8±0,44	269,3±2,61	44,1±0,33
total	62,5±0,19	67,2±0,36	57,5±0,05	64,4±0,29	52,9±0,29	125,7±1,03	61,3±0,20

The results of the analysis show that the injury rate in almost all social groups, with the exception of children 15-17 years old, is significantly higher in the city than in rural areas. If we consider this situation for each separately studied social group, then among the entire population, the injury rate in the city compared to rural areas is higher in 3.1; among men - 2.3; among women - 4.5; among children under 18 years - 3.4; 0-14 years - 3.9; among those aged 18 and older it is higher in 3.9 times. One of the aspects that caught our attention was that the injury rate among children aged 15-17 in Yangiarik District was -5.5 times higher than in Urgench City, and -4.5 times higher than in Koshkupir District. While the injury rate in Urgench city recorded an increase (108.7%±0.52 for men and 119.3%±0.55 for women), in rural areas, on the contrary, the injury rate is 1.8 times higher for men in Koshkupir district and 1.7 times higher in

Yangiyarik district. A comparative study of injury rates among children's age groups showed that in Urgench, the injury rate was 2.1 times higher among children aged 0-14 years (104.7%±0.69) than among children aged 15-17 years (48.9%±0.17); this rate was significantly higher among children aged 15-17 years in rural areas. (Table 3)

(Table 4.)

Dynamics of injuries among different social groups in Urgench for 2016-2020 (per 1000 residents) (p±m)

Years of study	Total number of injuries	Mens	Womens	In children.			18 years old and over
				total	0-14	15-17	
2016	88,2±0,76	98,8±1,13	77,9±1,02	68,3±1,20	69,6±1,30	60,1±2,96	97,5±0,96
2017	118,8±0,86	75,8±1,22	99,3±1,13	107,9±1,47	116,1±1,63	58,4±2,94	109,4±1,01
2018	110,2±0,83	121,8±1,23	98,4±1,13	78,0±1,26	82,4±2,96	51,7±2,74	125,4±1,07
2019	131,6±0,89	137,2±1,29	125,9±1,25	107,4±1,44	115,2±1,61	60,2±2,95	143,1±1,13
2020	130,5±0,88	68,6±0,94	192,6±1,47	120,6±1,50	135,2±1,72	15,6±1,51	135,0±1,09
Medium	114,0±0,37	108,7±0,52	119,3±0,55	96,7±0,53	104,7±0,69	48,9±1,90	122,2±0,47,

Based on the results of the analysis of the dynamics of injuries, we can see that the prevalence rate in the city as a whole in 2020 (130.5%±0.88) compared to 2016 (88.2%±0.76) has increased almost 1.5 times. When we consider this indicator among children and adults, its frequency increased by 1.7 and 1.4 times, respectively. If we consider the dynamics of traumatism by gender distribution, we can see that its level in women increased 2.4 times in 2020 (192.6%±1.47) compared to 2016 (77.9%±1.02), and in men decreased by 1.4 times. Among urban residents it was found that the injury rate is slightly higher for women than for men. It is also noteworthy that traumatism in children in 2016 was 96.6%±1.30 per 1000 examined children aged 0-14 years, in 2020 this figure was 135.2±1.72 and increased 1.4 times in the dynamics, and also, the number of injuries in 0-14 years (104.7±0.69) is 2.1 times higher than in 15-17 years (48.9%±1.9). (Table 4)

(Table 5.)

Dynamics of injuries among different social groups in the Koshkopirsk District for 2016-2020 (per 1,000 residents) (p±m)

Years of study	Total number of injuries	Mens	Womens	In children.			18 years old and over
				total	0-14	15-17	
2016	15,4±0,30	20,0±0,49	10,7±0,36	16,1±0,58	13,3±0,52	32,1±1,91	15,0±0,37
2017	15,1±0,30	14,9±0,42	15,2±0,43	16,0±0,52	13,0±0,51	34,5±2,0	14,6±0,36
2018	15,7±0,30	18,0±0,46	13,3±0,39	24,7±0,64	13,0±0,51	96,2±3,27	10,9±0,31
2019	31,0±0,42	36,1±0,63	24,5±0,53	44,2±0,85	40,0±0,87	69,0±2,83	24,0±0,46
2020	28,5±0,39	44,2±0,48	12,6±0,38	39,0±0,79	35,0±0,81	64,1±2,70	23,0±0,45
Medium	21,3±0,16	27,1±0,25	15,3±0,19	28,2±0,30	23,1±0,30	59,0±1,16	17,6±0,17

In Koshkopir District, the injury rate was 5.3 times lower than in Urgench. In contrast to the city, it was found that the injury rate in rural areas is 1.8 times higher for men than for women. It is worth noting that the injury rate in all social groups studied in the area has a feature of increasing from year to year. Looking at absolute numbers, injuries in the general population increased 1.8 times; in men -2.2 times; in women -1.2 times; -2.4 times all children; -2.6 times ages 0-14 years; -2.0 times ages 15-17 years in 2020 compared to 2016. It can be noted that it increases by a factor of -1.5 in persons 18 years and older. (Table 5)

(Table 6)

В 2016-2020 годах динамика травматизма среди различных социальных групп в Янгиарикском районе (на 1000 жителей) ($p \pm m$)

Years of study	Total number of injuries	Mens	Womens	In children.			18 years old and over
				total	0-14	15-17	
2016	44,2±0,62	56,8±0,99	31,2±0,75	61,9±1,26	31,7±1,0	213,6±5,2	35,2±0,69
2017	57,4±0,70	79,4±1,14	38,8±0,82	84,6±1,45	42,0±1,14	298,4±5,8	46,8±0,77
2018	61,7±0,71	69,5±1,06	53,6±0,96	90,0±1,49	41,3±1,13	347,8±6,2	48,0±0,78
2019	46,1±0,62	57,9±0,97	34,1±0,76	50,2±1,14	24,2±0,86	196,9±5,3	44,9±0,75
2020	49,1±0,63	65,8±1,02	32,0±0,73	55,1±1,18	15,7±0,70	288,8±6,9	46,2±0,75
Medium	52,1±0,29	65,9±0,47	37,9±0,36	68,3±0,59	30,8±0,43	269,3±2,61	44,1±0,33

In Yangaryk district, the traditions of Urgench city and Koshkopir district in terms of traumatism among the entire population have been preserved. It was found that the injury rate among the general population has a characteristic increase during 2016-2020 among all social strata studied. When analyzing data from statistical materials, it was noted that the number of injuries among children, especially at the age of 15-17 years, is several times higher than among other ages and the general population. Particularly, in 2018, it was noted that injuries among children aged 15-17 were 5.6 times higher than the disability rate in the general population and -3.8 times higher than the injury rate among children. (Table 6)

Conclusions:

1. The high level of injury and related disability and mortality among the general population and children and its annual increase is considered one of the most important and urgent medico-social, socio-psychological and economic problems for any society and its health care system;
2. Analysis of the studied literature and reports from statistical collections where research is conducted has shown that in almost all countries of the world, as well as in Uzbekistan and Khorezm Province, where research is conducted, domestic injuries among the general population and children remain high and tend to grow dynamically;
3. It has been established that in Khorezm Province, the injury rate among the total population in urban areas is 3.1 times higher than in rural areas, in men it is 1.2 times higher than in women, in children aged 0-14 years in the city 3.8 times higher than in rural areas;
4. There is a significant 1.4-fold increase in injuries among persons 18 years and older in urban and rural areas in 2020 compared to 2016;
5. It has been found that in rural areas of the region the injury rate is several times higher, especially among adolescents compared to children of other ages.

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