Road safety,
trauma, help to road accident victims

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ROAD ACCIDENT AS A TRAUMATIC SITUATION – HELP TO THE VICTIMS

People often experience unexpected and difficult situations to cope with. Some of them represent traumatic experience. This kind of situation includes a motor vehicle accident (MVA). Road accidents are recognized as a today's public health problem. It is not only evidenced by the great number of road accident victims (families, witnesses, rescue teams) but also mental, social and financial consequences experienced by these victims.

This paper presents statistics and costs of road accidents in Poland, provides information about psychosocial consequences of MVA and also show activities aimed at helping victims of MVA.

This work also contains results of the study about types of help available in Poland for road victims. Research was conducted in 2008/2009 by Motor Transport Institute and it was carried out among Crisis Intervention Centers, traffic police officers, participants of road accidents, and some key associations and foundations dealing with helping victims of MVA.

WYPADEK DROGOWY JAKO SYTAUCJA TRAUMATYCZNA – POMOC OFIAROM W POLSCE

Ludzie często w życiu doświadczają sytuacji, z którymi trudno sobie poradzić. Wśród nich szczególną grupę stanowią sytuacje traumatyczne. Taką sytuacją jest również wypadek drogowy. Obecnie wypadki drogowe uznaje się za jeden z największych problemów zdrowia publicznego. Świadczy o tym zarówno ogromna liczba ofiar ruchu drogowego (zarówno bezpośrednich, jak i pośrednich tkj. rodziny, świadkowie wypadku, służby ratownicze), oraz ponoszone przez nie konsekwencje psychiczne, społeczne i materialne.

Niniejszy referat zwiera informacje dotyczące rozmiarów i kosztów zjawiska wypadków drogowych w Polsce, jego psychospołecznych skutków oraz działań na rzecz pomocy ofiarom wypadków.

Przedstawione zostaną również wyniki ankietowych badań (dotyczących pomocy jaka oferowana jest ofiarom wypadków w Polsce), przeprowadzonych w 2008/2009 roku przez Instytut Transportu Samochodowego wśród Ośrodków Interwencji Kryzysowej, Stowarzyszeń i Fundacji zajmujących się pomocą ofiarom wypadków, Policjantów Ruchu Drogowego, oraz poszkodowanych w wypadkach.

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1. INTRODUCTION

Road accidents are one of the biggest public health problems. The reason is a large number of road accidents victims as well as the mental, social and material (financial) costs which the people have to pay.

About 3 thousands people die in road accidents everyday world wide. This brings it to a number of 1,2 million people every year. The World Health Organization (WHO) estimates that on average, to one dead accident victim occurs, there are four injured persons, who are disabled as a result of the accident. Ten people need to be hospitalized and thirty need medical help [12].

Based on the statistics, it is hard to estimate the total number of road accidents' participants. Each accident has at least one participant – the driver. In 2008 in Poland it was 49 054 people (because that was the number of accidents) [28]. In spite of that, each of the accidents includes dead and injured people. The statistics don't say how many people were in double role as maker of accident and accident's victim. The number of people who indirectly participate in the accident, like: families, witnesses, rescue teams, are very hard to estimate.

MVAs (Motor Vehicle Accident) represent one of the most common stressful life events. The psychologists talk more and more about mental consequences of participation in road accident as well as the influence on various aspects of the survivors life quality.

For many survivors of serious road trauma, the physical and psychological consequences are complex and lifelong. The longer-term psycho-social recovery experience of survivors, however, is rarely documented in the literature.

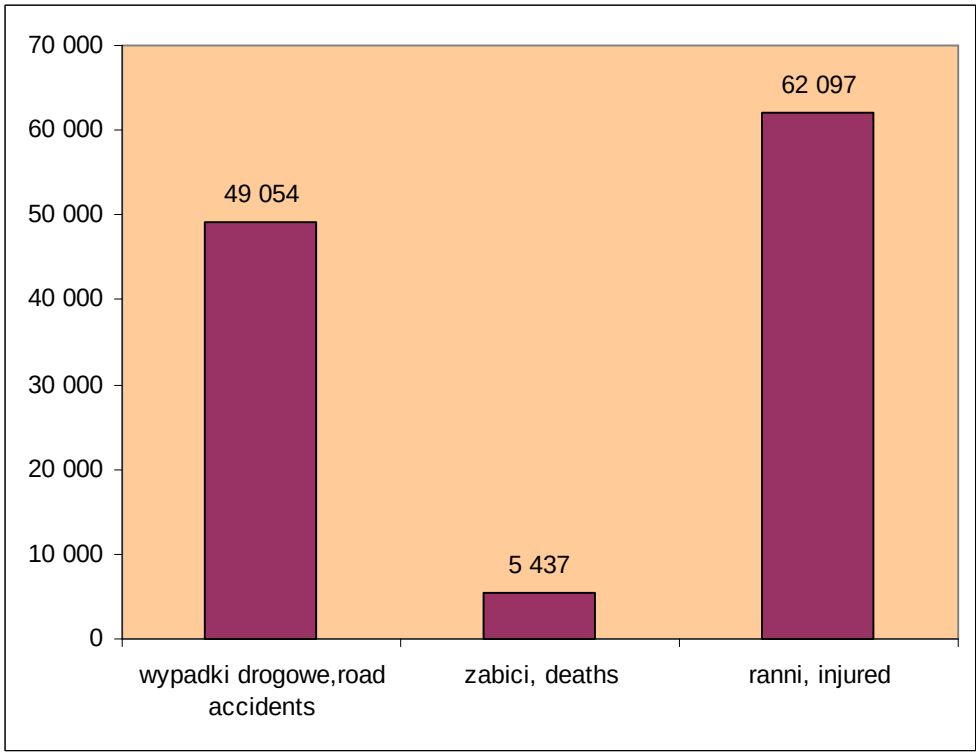
The consequences of road accident are felt not only by direct road accident participants, but also by the perpetrator of accident and the families of both groups.

Research conducted in 1993 by European Federation of Road Traffic Victims [6,7], shows that 90% of dead victims' families and 85% of disabled victims families suffer from psychological problems like: fear attacks (46%) and suicide thoughts (37%). In many cases these symptoms don't withdraw.

There is not a lot of information about road accident victims in Poland. We also know little about their social life and existential problems. It concerns majority of victims, who experience negative results of trauma. They are left to themselves with their problems and they usually get the support and help only from the people close to them (families, friends). This motivates the experts to prepare prophylactic programs, which take on some important tasks (in social, economical, health areas) to reduce the number of victims as well as to create of global help system.

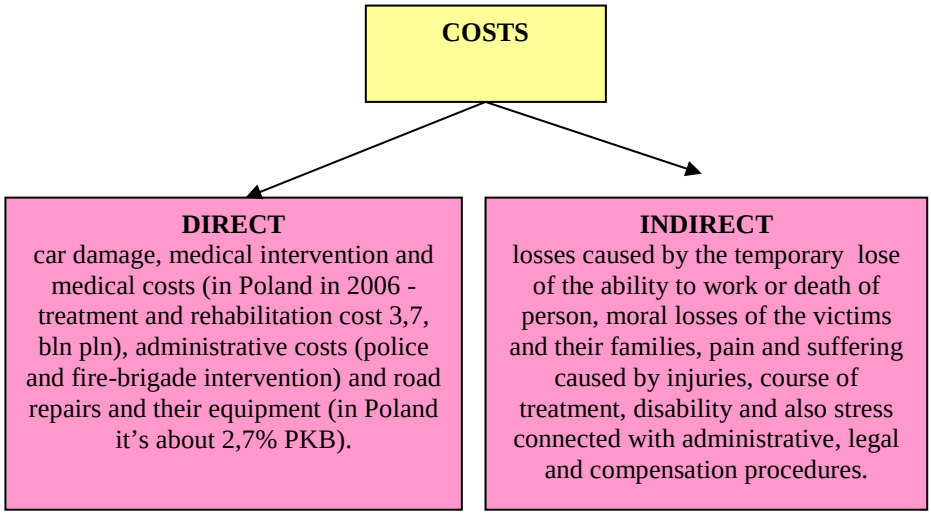
2. NUMBERS AND COSTS OF ROAD ACCIDENTS IN POLAND

In 2008 in Poland there were 49 054 accidents. As a consequence, 5737 people were killed and 62 097 were injured [28]. It means that for one in ten accidents, one person was killed. The statistics say that the most people - about 70% die at the place of accident, and the rest die in hospitals during 30 days from the date of accident.



Graph 1. Road accidents in 2008 in Poland
References [28]

Consequences of road accidents include a large direct and hard to estimate indirect costs. Even relatively minor MVAs generate disproportionately large social costs, especially in terms of rehabilitation and chronic care [13].
Although the physical injuries associated with MVAs are extremely common and costly, the psychosocial consequences of MVAs can be associated with even greater costs.



Graph 2. Road accident costs
References: Individual study

Motor Vehicle Accidents cost Polish society about 30 bln EURO [29].
Investing in reducing the number of accidents, injured and people killed as well as collisions besides preventing people's tragedies translates into financial benefits.

3. SOME PSYCHICAL AND SOCIAL CONSEQUENCES OF PARTICIPATING IN THE ROAD ACCIDENT

Road accidents, especially the serious ones, have a big influence on various aspects of survivors' life. For many of them, the trauma and psychological or emotional difficulties they experience can be devastating. These psycho-social problems can hinder the rehabilitation process. The rehabilitation and treatment offered to the survivors of MVAs usually focus on physical injury rather than psycho-social functioning. Thus, there is likely to be a large group of people for whom psycho-social difficulties will be significantly exacerbated over the time. Without adequate treatment, these difficulties are likely to become entrenched, leading to even greater social costs.
Symptoms and reactions to traumatic events (like road accident) are definined by two systems of classification of mental disorders DSM (Diagnostic and Statistical Manual of Mental Disorders) and ICD (International Classification of Diseases). Analyzing dynamics of the mental disorder after traumatic event we could observe 2 of the most important reaction groups:
The first one is ***Acute Stress Disorder (ASD)***
There must be an immediate and clear temporal connection between the impact of an exceptional stressor and the onset of symptoms. Onset is usually within a few minutes or hours. In addition, the symptoms show a mixed and usually changing picture; in addition to the initial state of "daze", depression, anxiety, anger, despair, overactivity, and withdrawal

may all be seen, but no one type of symptom predominates for long. Resolve rapidly (within a few hours at the most) in those cases where removal from the stressful environment is possible. In cases where the stress continues or cannot by its nature be reversed, the symptoms usually begin to diminish after 24–48 hours and are usually minimal after about 3 days.

The diagnostic criterias for ASD, per the Diagnostic and Statistical Manual of Mental Disorders IV (Text Revision) (DSM-IV-TR), are as follows [1]:

A. The person has been exposed to a traumatic event in which both of the following were present:

1. the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
2. the person's response involved intense fear, helplessness, or horror

B. Either while experiencing or after experiencing the distressing event, the individual has three (or more) of the following dissociative symptoms:

1. a subjective sense of numbing, detachment, or absence of emotional responsiveness
2. a reduction in awareness of his or her surroundings (e.g., "being in a daze")
3. derealization
4. depersonalization
5. dissociative amnesia (i.e., inability to recall an important aspect of the trauma)

C. The traumatic event is persistently reexperienced in at least one of the following ways: recurrent images, thoughts, dreams, illusions, flashback episodes, or a sense of reliving the experience; or distress on exposure to reminders of the traumatic event.

D. Marked avoidance of stimuli that arouse recollections of the trauma (e.g., thoughts, feelings, conversations, activities, places, people).

E. Marked symptoms of anxiety or increased arousal (e.g., difficulty sleeping, irritability, poor concentration, hypervigilence, exaggerated startle response, motor restlessness).

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or impairs the individual's ability to pursue some necessary task, such as obtaining necessary assistance or mobilizing personal resources by telling family members about the traumatic experience.

G. The disturbance lasts for a minimum of 2 days and a maximum of 4 weeks and occurs within 4 weeks of the traumatic event.

H. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition, is not better accounted for by Brief Psychotic Disorder, and is not merely an exacerbation of a preexisting Axis I or Axis II disorder.

The second group is ***Post Traumatic Stress Disorders (PTSD).***

It diagnosis after 4 weeks of symptoms' persistence. The state can be acute (when the symptoms stay less than 3 months), chronic (time of symptoms staying is 3 months or longer), or it can appear in unlimited time after trauma. During persistence of PTSD, there are a risk of depression, feelings of anxiety, psychotic and personality disorders as well as abuse and suicide.

According to the DSM-IV-TR the full diagnostic criteria for PTSD are as follows:

A. The person has been exposed to a traumatic event in which both of the following were present:

1. the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
2. the person's response involved intense fear, helplessness, or horror. **Note:** In children, this may be expressed instead by disorganized or agitated behavior.

B. The traumatic event is persistently reexperienced in one (or more) of the following ways:

1. recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. **Note:** In young children, repetitive play may occur in which themes or aspects of the trauma are expressed.
2. recurrent distressing dreams of the event. **Note:** In children, there may be frightening dreams without recognizable content.
3. acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated). **Note:** In young children, trauma-specific reenactment may occur.
4. intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
5. physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

1. efforts to avoid thoughts, feelings, or conversations associated with the trauma
2. efforts to avoid activities, places, or people that arouse recollections of the trauma
3. inability to recall an important aspect of the trauma
4. markedly diminished interest or participation in significant activities
5. feeling of detachment or estrangement from others
6. restricted range of affect (e.g., unable to have love feelings)
7. sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

1. difficulty falling or staying asleep
2. irritability or outbursts of anger
3. difficulty concentrating
4. hypervigilance
5. exaggerated startle response

E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Some evidence suggests that MVA survivors have been found to experience high levels of posttraumatic stress symptoms [26]. They have also reported significantly high levels of chronic emotional disturbances, such as anxiety, anger, and depression [17], and they are likely to experience a sense of meaningless and identity confusion [22]. MVA

survivors often experience interpersonal conflict and social isolation [20]. Returning to vocational pursuits has also been identified as a major problem in this population [24].
Anxiety disorders persistent for 1 year after motor accident was diagnosed by Mayou and Ehlser [18] researches in a group of 1148 people. 19% (N=144) reported general anxiety, phobic travel anxiety was reported by 125 people (16%).

In spite that trauma can happen to everyone, not everyone traumatic event participant may have PTSD. Frequency of the PTSD occurrence varies with different researches, from 8% [5, 23, 19], to even 62,7 % [2,25]. This disorder passes after some times for several survivors. Another researches confirm, that elements of symptomatology of PTSD are present in 62% of MVA victims, even if there weren't any physical injuries [13].
Blanchard [2] reported that for 43,5% survivors who developed PTSD, the most common are also Major Depression and Mood Disorders (56,5%).

Close people as well as injured victims of motor vehicle accidents suffer from the mental disorders similarly [6]. In many cases the bereaved lose interest in life, everyday activities such as professional work, housework, studies (72%), loss of drive (70%), loss of self confidence (49%), experience suicidal feelings (37%). 64% suffer from depression, 27% phobias, 35% eating disorders, 78% anger and 71% resentment.
Other mental consequences are ASD and PTSD, mood and anxiety disorders as well as depression.
A lot of things (for example people's individual features or another attributes) have an influence on occurrence of various symptoms of disorders. For mental consequences it's very important if the trauma event was a tragedy involving many people (road disaster) or it was a simple accident. Who was the perpetrator of accident, who was the victims (dead victims)? What is the degree of disability? Are the body damages permanent or they can pass with time?
More serious and lasting mental consequences occur in people who are not guilty of causing accidents (40%) in comparison to people who caused accidents (14%) [25].
Bryant, Harvey [4] reported in their research that 19% of people who were responsible for the accident suffered from PTSD while yet 29% not responsible ones.
Most studies have found that individuals who blamed another person for their injury tended to experience higher levels of anger and aggression than those who did not blame anyone else [27]. In contrast, when self-blame was reported, it was found that depression and anxiety were prominent reactions to accidental injury [9].
Another research [8] reported that survivors' self-blame depend on the type of accident and the belief that, they could prevent the accident. The lower possibility of prevention, the lower survivors' self-blame.
Mental consequences are different in case of permanent and visible disability. People who survived the accident and lost their closed person, have always deeper and more persistent trauma and their injury is permanent and visible to others [3].
Road accident cause changes not only in mental aspects but also in the later road traffic behaviour. More cautious driving is observed, paying more attention to other road users, and changing cars more frequently for safer ones [25].
Some scientist, talk even about road travel phobia. The behavioural manifestation of phobia might range from driving with excessive caution (e.g., driving extremely slowly) and avoiding none essential trips (e.g., using motor vehicles only for essential trips) or

particularly difficult driving conditions (e.g., peak hour, night driving, bad weather conditions) to the complete inability to use a motor vehicle, either as a driver or a passenger [10,26].

Motor vehicle and accident phobias were identified in 38,2% of survivors questioned [13]. However, in another study, full blown syndromes of accident phobia were identified in only 18% of MVA survivors at 3 months postaccident [21]. Persistent anxiety in response to potential accident situations has been found among 30% of MVA survivors up to 6 years after their injuries [19]. Some literature has suggested that a lower incidence of PTSD and phobia is found among survivors who lost consciousness during their accident, leading to amnesia for about the event. For instance, Bryant and Harvey [4] found that while 42% of MVA survivors satisfied the criteria for PTSD, only 26% of those with neurological injuries experienced PTSD. In particular, Bryant and Harvey noted that intrusion symptoms were significantly lower among the neurologically injured group, presumably because of the absence of visual memories.

Consequences of participation in road accident concerning also the social aspects. Many survivors of MVAs report that the reduction in their independence and vocational performance is the most fundamental loss associated with the accidents. It has been found that people who are unable to return to work following an accident experience higher levels of psychiatric disorder than those who are able to return to work [14].

Survivors of MVAs have frequently reported a decline in the quality and quantity of their social relationships and an increase in family breakdowns. This social consequence of MVAs leaves survivors particularly vulnerable to adjustment difficulties [11]. This social process is often complicated by the antisocial behaviors that are sometimes displayed by people who survive traumatic accidents (e.g., substance abuse or aggressive behavior). Indeed, Medetsky and Parnes [22] found that survivors of MVAs often displayed increased levels of irritability and lowered frustration tolerance, leading to aggressive behavior. Social integration is complicated by the fact that about 20% to 30% of MVA survivors use alcohol, prescribed medications, or other substances as a means of coping with their emotional difficulties [20].

Psycho-social consequences affect the survivors to various degree and intensity. The literature suggests, that the more dangerous is accident and more loss and suffering takes place, the probability of negative mental consequences are bigger [9].

4. HELP TO MVA VICTIMS

Road accident is a very hard experience for direct as well as indirect participants. Everyone should have the possibility of contact with the institutions and organizations which helping in financial, law and psychological ways in various moments after the accident. Looking at it from the point of view of returning to full health or lasting posttraumatic symptoms, the specialist underline the important meaning of first six months after trauma (road accident), availability and quality of support or lack of it, therapeutic treatment and proper behaviour of social and cultural environment [15].

Deficiency of Polish road safety system is lack of road traffic victims help system which would provide them with law, psychological and information support. There is not much information about social, professional, existential problems of victims. It concerns majority of victims who experiences negative results of trauma, but their accident,

problems aren't shown in media, like in road disaster. These kinds of people usually remain left alone with their problems, waiting only for their family or friends to help.

In Poland, there are some non government organization like foundations, associations, Crisis Intervention Centres which help, in non profit way the road accidents survivors as well as their families.

They usually ensure law, (within their capabilities) material and psychological support.

Because of mental problems which affect a large group of participants especially psychological help is very important.

The goal of psychological intervention is to enable the victims to re-establish psychological equilibrium and return to pre-accident functioning, if possible. Psychological help is needed especially by disabled survivors, their families of the victims killed. The forms of therapy are: crisis intervention and psychotherapy supported by pharmacotherapy. In PTSD the most popular is cognitive-behavioural therapy. This can often be accomplished by discussing the motor vehicle accident, offering reassurance, educating the patient about PTSD, emphasizing coping strategies.

5. RESEARCH

During 2008 and 2009, pilot studies were conducted at Motor Transport Institute on psychological help to MVA victims. Some associations and foundations (N = 18), Crisis Intervention Centres (OIK) (N = 15), Traffic Policemen (N = 1700), who, in their work, help MVA victims everyday and some people who participate in road accidents (N = 37) spoke out. In our research we used specially prepared questionnaires.

Summary:

1. Institutions (associations and foundations, OIK) reported three groups of motor vehicle accident victims' problems. They are as follows:
   - problems connected with lack of knowledge, information, procedures,
   - problems with mental, health, rehabilitation disorders,
   - financial problems.
2. The analysis shows that victims or their families have expectations that interact with each other. The most people turn to these organizations for financial and law help. The fewest for psychological help.
3. Psychological problems reported by the representatives of those organizations are PTSD, ASD, self blame, global anxiety, travel anxiety, lower self esteem, sleep problems, interpersonal conflicts, problems with mourning and loss experience, with concentration of attention, with disability acceptation helpless and many more.
4. Institutions (associations and foundations, OIK) all admit that system of helping MVA victims, has a lot of deficiencies:
   - lack of effective system to reach MVA victims with information about rehabilitation, law and psychological assistance,
   - complicated law system,
   - lack of institutions and law procedures to protect interests of victims in executing compensation processes by the insurance firms,
   - lack of experiences in psychological victims help.

5. Traffic Policemen, from their own experience and observations of victims on the road, clearly notice the need of psychological help to be provided to MVA participants.
6. There are a lot of psychic reactions which take place at the accident place such as: tears (72,6%), irritability (60,2%), problems with concentration of attention (38,6%), fear (38,1%), helplessness (37,5%), anger and irritation (31,6%).
7. 84,9% of Policemen did not encounter in their work the psychological support (intervention) being administrated at the place of accident.
8. Less than half of policemen (60,3%) declare that they had to notify the MVA victims' family about the death of their close ones, in majority (97%) they were not accompanied by any psychologist or another person with specialist knowledge.
9. The large number of MVA victims (77,8%) claim, that at the place of accident nobody was interested in theirs mental state, and in 83,8% nobody gave them any psychological support.
10. 63,9% did not hear about the organizations, associations and foundations helping MVA victims in various ways.
11. MVA victims, especially who are stuck to a wheel-chair, said that after accident everything changed in theirs lives. Those who noticed the differences, said that it concerned general functioning, appearance, decline in sport practice, hobby, reduced sense of security, increased feeling of solemnity, calmness.
12. There are also a lot of changes concerning participation in the traffic. People are more cautious on the road, demonstrate lack of confidence in another drivers, carefulness during driving, they keep greater distance between cars. Other people are more careful when crossing the road, and others mentioned fear to use public transport.

6. CONCLUSION

Road accident as a traumatic event is an individual case for each survivors. Most of our research participants lead a normal life but for many of these people, accident is an experience which affects to their everyday functioning, self esteem, and quality of life, impossibility of professional and social realization.

Due to many proposals, suggestions from all the institutions and organizations, involved in the research, there is a necessity to look for the solutions, which would improved the situation of road accident victims.

- The most important is cooperation between public administration, rescue teams, therapist and volunteers. It would concentrates on helping people who are in difficult life situation. To simplify obtaining getting this kind of help, special aid centres should come into existence. They would give complex and free material, law and psychological help.
- Urgent need is to assure access to information about accident, victims rights, claiming damages, organizations which help road accident victims. Using wide information activities (social campaigns, educations), developing and disseminating information materials, leaflets - where people can get the information about possibility of receiving help could solve the problem in same way.

- Big emphasis should be placed on the psychologists and rescue teams training, referring to trauma issues and the methods of coping with difficult situations, road accident victims reactions as well as how to help at the place of accident. Training and practicing in giving psychological help may improve communication, facilitate understanding other people, and promote giving empathy and emotional support in crisis situations.
- One the hardest activity, which requires the reactions of the authorities is making the effective law rules. Currently, the victims find a lot of complications with procedures as far as compensations are concerned, which in turn are inadequate to the losses sustained (especially emotional and mental).

People who participate in road accident suffer not only physically. The literature has suggested that up to 70% of people who experience an MVA will develop some type of traumatic response. In the cases where accident consequences are lighter, the victims need only social support. Other people may have symptoms so intensive and prevailing for so long that they disturb everyday life and need to be treated. That is way, very important seems to be developing and monitoring systems of helping people, aimed at the accident victims and who, as the result of it, sustained physical and also mental costs.

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