

Analysis of Factors Affecting the Quality of Shooting during Training in Snipers

Fayzieva D. B.

Military Medical Academy, Tashkent, Uzbekistan

Annotation: Bullet shooting is characterized by the absence of active dynamic muscular activity, visible changes in human movements. Success in shooting directly depends on the shooter's ability to precise sensorimotor control, deep concentration of attention, precise operation of the visual analyzer, and all this in general under conditions of emotional stress. It has been proven that the quality of aiming depends on the correct and convenient vision setting for the shooter. The relationship between binocular and monocular vision, their acuity and accuracy of hitting the target when shooting has been revealed.

As we know, the factors that affect the sharpness of snipers are divided into two large groups: external and internal factors. According to the data given by the researchers, internal factors include physical, moral restraint, proper nutrition, mental stability, while external factors include the illumination of the target, the speed of air circulation, the air temperature, the plane of the place. The physical fitness of snipers, calculated from internal factors, serves to strengthen the sharpness of vision. By performing constant physical exercises, military personnel form an automatism of activity. It has been proven in studies that improved circulation in the body and oxygen delivery to the blood vessels of the organs of vision can be achieved through cardio masques and strength-seeking exercises. Author Pronoza A.V. according to the data given by military personnel, it is possible to achieve the strengthening of the acute of fear by enriching the diet of food with antioxidants and vitamins. Regular examination of visual organ function, more specifically in research on diagnostic acuity, is noted: examination of visual organ function is a continuous part of the process of firmly holding visual acuity in snipers. By diagnosing, the effect of early detection and timely treatment of decreased visual acuity increases. Snipers are obliged to regularly undergo an ophthalmologist's examination, follow the appropriate recommendations.

From the above, it can be said that for snipers, it is necessary to take into account the influence of several factors in strengthening the visual acuity and preventing its decline. An effective result can be achieved by physical fitness, rational nutrition, regular examination. According to studies, it can be said that in the training of military personnel, marksmanship requires specific training. It does not have active dynamic muscle activity, but is characterized by requiring accuracy in human movements. However, in practice, repeated lifting and holding of the weapon (its weight from 1 to 8 kg) causes certain static stresses of the military personnel's musculoskeletal system. The advantage of static stresses does not in any way reduce the requirements for the general, versatile physical training of shooters. In exercises, a number of neuropsychic abilities must be developed at a high level. The success of a military sniper directly depends on the ability of the fighter to have precise sensomotor control, a deep concentration of attention, the precise operation of the visual analyzer and the fact that it is not at all in a state of emotional stress in responsible battles. The repetition of actions of the same type leads to the development of the phenomenon of monotony, negative changes in physiological functions, unpleasant subjective sensations, rapidly developing fatigue –stress.

Stress is the body's physiological and mental response to an external environmental factor. There are several types of stress, which are physical, emotional, psychological or mental stress. The peculiarity of the stress situation in Snipers is that the factors that lead to it include long wait, high responsibility for their actions and decisions, and the firing of a projectile aimed at the lethal target. These factors cause a strong state of stress and mental stability to be traced in snipers, and cause physical and mental

strain in the military. In physical exertion in the result of Stress, the Coordination of movements in the snipers is disrupted, as a result of which the ability to correctly mark the target is lost and causes a strong exhaustion. And as a result of mental tension, strong excitement, bewilderment, impaired concentration and inability to make the right decisions occur in snipers.

Among the various reasons that affect the accuracy of the badge in the sniper, the reasons associated with the internal psychological training of the military personnel occupy an important place. This is the result of the individual, intellectual and psychological activities of a military officer. However, this result is usually also influenced by external influences.

Internal psychological training will be aimed at overcoming the feeling of distrust of one's own strength, fear of opponents. The military man faces various difficulties and mistakes during the exercises, learns to overcome them, as a result of which volition and self-confidence are formed. A constant feeling of his current capabilities should help to realize precisely these abilities, to build psychological confidence. Creative feeling and cold thoughtfulness can give the most reliable result.

Correctly feeling the level of one's skill, as well as the boundaries between emotional and rational actions, provide the necessary psychological mood and, accordingly, form an optimal internal psychological state for reliable work. The correct setting of truly achievable goals is a crucial part of psychological training. If a serviceman feels wrong about his condition, he will overestimate it or be in distrust, and will inevitably lay the groundwork for the next "failure".

Distrust is the direction in which one devalues one's own capabilities, pride can manifest itself in the military's expression or indifference of one's own capabilities as excessive. The military man must be able to regulate his feelings, because the outcome of the battle depends on this. The more psychologically stable the sniper, the less he makes mistakes at a distance. Performing the usual exercises before battles, technical and tactical exercises have a beneficial effect on emotions. These exercises should be very complex, requiring a lot of attention, and thus distract snipers from bad thoughts.

Special psychological "training" is of great importance for further actions, including individual exercises and, most importantly, for combat. A clear statement of goals, adequate information and a developed plan of action will reduce distrust. When preparing military personnel for a sniper, it is useful to include exercises called ideomotor exercises. Ideomotor exercises are visualizations of sniper movements on the battlefield, increasing the effect of mental training. It is necessary to strive to imagine in as much detail as possible. In order for the previously started excitement not to "blur" mental activity, military personnel should be trained to perform ideomotor exercises in training.

Another main way to regulate emotional states is self-regulation. Each sniper must also practice self-control. Self-control is of great importance not only for snipers, but also for all individuals, it is only worth noting that exercises for the formation of this activity in military personnel should be individual, since the optimal level of emotional arousal for each military will be specific.

The task of moral and volitional preparation is purposefulness. The formation of moral and volitional qualities, character traits of a military officer allow him, on the one hand, to harmonize the circumstances on the battlefield and beyond, and, on the other hand, to successfully implement his special skills and abilities in competitions. In a competitive environment, difficulties and problems constantly arise, overcoming and solving them strengthens the character. The essence of improving exercises requires not to be bypassed, but to consciously overcome the difficulties that arise with great effort and willpower. Among the main volitional qualities, one can highlight purposefulness, initiative, perseverance, self-control and courage. As mentioned above, regular exercise provides endless opportunities for Will training. For example, perseverance develops in the process of mastering through exercises. Perseverance and perseverance are the result of regularly overcoming fatigue during training and in competitions, especially in unfavorable conditions. Self-control is brought up in an atmosphere of tight competition in responsible competitions, if necessary, the mistakes made are immediately corrected.

According to the World Health Organization, 45% of all diseases are associated with stress, and some researchers argue that this figure is 2 times more. According to research conducted in the 2000s, 30-50% of visitors to the Polyclinic are almost healthy people, they are only patients who need to improve their emotional state. In economically developed and relatively stable countries, stress cases are recorded even more. For example, according to data given by American researchers, about 40% of Japanese teachers, about a fifth of UK workers and 45% of US workers suffer from stress. At the same time, Hans Sele, a Canadian physiologist, author of studies on stress, found that mental tension can be beneficial and increase the strength of the body, even calling it a "spicy spice to the daily food of life", arguing that only under certain conditions stress becomes pathogenic. During their career, doctors are likely to identify those who maintain their health, cheerfulness and sensitivity, despite the constant many stresses among their patients. However, patients who are painful and insecure despite avoiding stress and living without stress are also identified. Stress is an adaptive ability that occurs in a state of tension that affects the psyche and the person who leads to the activation and restructuring of the adaptive resources of the body, not corresponding to the size of the load. Stress is characterized by many changes in the body and personality. The leading psychological feature of stress is tension. Tension is accompanied by a change in activity intensity in most people. As a result of his scientific research, Hans Sele assigned stress to eustress – "good", constructive and distress – "harmful". Eustress has a positive effect on activity. Resentment leads to fatal consequences in the body of an individual. Distress activates adaptability, but weakens human mental and mental development, as a result of which it prevents the realization of goals for the near and far future. It can also cause severe exhaustion. Again, short-term and long-lasting (chronic) types of stress are differentiated. Symptoms of stress include the following. Changes in the body: increased number of heartbeats, superficial breathing, increased breathing rhythm, redness or vice versa whitening of the skin of the face, neck, sweating of the palm, increased activity of the salivary and sweat glands. Signs in behavior: changes in facial and neck mimicry, voice strength and timbre, coordination and strength of movements. Trembling lips, tightening of the chewing muscles, a calm and confused look, getting into an unknown situation and an appearance in a state of serious danger.

When considering methods of stress prevention, it is necessary to pay attention to several factors. Lifestyle is the activity of life of a person from early morning to night. Active and relaxation components of the lifestyle include the correct Organization of the agenda, the diet, movement activity, the quality of rest and sleep, the relationship with those around them, the response to stress, etc. It is the person himself who determines how his lifestyle will be, and he can be healthy, active or unhealthy and passive. It is worth noting that a military man can consciously control one or other processes occurring in his body, such an ability is called autoregulation. The following three methods are of great importance in Stress prevention: "restructuring the agenda against stress", first aid in acute stress, and personal stress autoanalysis. The possibility of using these three methods is available to all, and it is necessary to direct military personnel to be able to apply them.

In the development of stress resistance, there is a great demand in the activities of military personnel to gain mental endurance in various situations. Increasing mental endurance is achieved only when physical and mental qualities are formed that are closely related to each other. It is worth noting that in the theory of physical education, methods for achieving physical and mental endurance are not sufficiently developed. At the same time, with a high probability, it can be said that the positive aspects of the activity of human actions are very high. The formation of professional skills in the training of Bachelor, Master specialists in the Higher School of military personnel serves as the most complex criterion. The formation of stress resistance in the training of future mature military personnel is one of the most necessary criteria. The goal of the stress resistance formation methodology is to develop exercises that are simple, effective, to increase stress resistance in various situations, including being able to correctly mark and eliminate the target. When developing a solution to this problem, snipers developed special physical training methods and tools [6]. As everyone knows, the military personnel who performed auto exercises scored high. In all sports, the success of athletes was achieved not only by the quality of the excellent performance of exercises, but also by self-control in various situations,

control of complex mental exertion in competitions, characteristic. The experiment involved students of the military higher educational institution aged 19-20 years, who were instructed to theoretically develop and substantiate the process of identifying and shooting a target in a sniper. This program consists of 4 blocks (components):

- physical-characterized by the development of basic physical qualities;
- determines the development of the neuromuscular apparatus in functional-action activities;
- characterizes the level of formation of mental-psychic skills in mental-action activities;
- technical-special skills in different conditions determine the level of the current state, the level of knowledge of the movement skills of the sniper.

However, the emotional and effective methods that exist to this day in Physical Education indicate obsolescence. The composition of the experimental complex includes special exercises aimed at gaining the physical and emotional endurance available on the basis of exercises for preparing snipers. These include relaxation, movement reaction agility, coordination of movements of different parts of the body, exercises that serve to determine the accuracy of the target according to time, develop strength and strength, form the skill of being able to use a weapon in a position that imitates a tremor, such as a high heart rhythm on a vibrational trainer. In order to gain physical and mental endurance, exercises are performed in a position with open and closed eyes. Body and grooming are the morpho functional and mental basis of coordination and subtle movements, which determine the quality and effectiveness of shooting sniper from a screwdriver. However, it is worth saying that since the existing methodologies did not respond to these students, in the event of stress, during the desired activity of movement, simple and mobile, providing the stability of gun grip with the correct and ideal shooting technique, became the basis for the development of a methodology for managing the body.

There are several methodologies that ensure the elimination of stress on snipers. It includes techniques that include mental preparation, tension relief, relaxation, and meditation exercises. As can be seen from the above, stress is an integral part in the activities of snipers, which seriously affects the physical and mental state of snipers. Being able to assess and manage stress is a key task to improve the effectiveness of sniper activities and ensure their absence. Therefore, the development and application of stress relief techniques serve as the basis for ensuring the success of sniper activities. As noted, in military operas, snipers perform an effective important task over long distances. However, when performing the tasks of snipers, various external environmental factors exert their influence. Research has found that sniffing is influenced by several external environmental factors. One of the factors of the external environment is weather conditions. High air movement speed, wind: wind strength and direction significantly affect projectile flight and target contact. Snipers are required to take this status into account and make appropriate corrections when marking a target. The speed of air movement in open areas is important. The speed of strong air movement causes the projectile to be tilted relative to the target. The wind makes the bullet very noticeable away from the target. For example, it has been studied in studies that when the target's chin distance is 400 meters in a sniper, even a slow wind will tilt the projectile 23-25 cm from the target. It is very rare for air traffic to be in a calm state, and snipers must mark a target even at short distances, taking into account wind movement.

For wind speed in shooting practice, the following is acceptable:

- at the speed of Slow Air Movement-2-2.5 m / s;
- medium (medium) - 4-6 m / s;
- strong-8-12 m/s.

Adjustments to the speed of air movement are set according to a special schedule. Intermediate adjustments to the firing plane at an angle of 90° are made only when the lateral wind blows. In all correction tables in the world, the usual practice is precisely set for the average speed wind-4-6 M / s. This standard table data and all ballistic calculations should definitely pay attention to wind speed. All

Tabular correction data is multiplied by two in the case of strong winds and divided by two in the case of weak winds, that is, is half.

For the state of the wind blowing at any sharp angle (60°, 45°, 30°) adjustments to the shooting plane should be made, reducing the bias at an angle of 90° by a factor of two compared to the Windy state. It is better to refuse an urgent and ineffective shot when a strong side blow air movement blows (8-12 m/s). At distances of 300 meters or more, strong winds blow unevenly, so in such conditions it is impossible to predict the quality of work of the sniper in advance. The wind blowing from the side accelerates or slows the projectile's flight and therefore lies above or below the target. But this phenomenon practically manifests itself at distances of 400 meters and longer.

The degree of illumination affects the accuracy and visibility of the target. When the scattered illumination is in the range from 500 to 5000 Lux, the visual acuity increases, and the exact acquisition of the target in the sniper increases. And vice versa—a decrease in light leads to a decrease in the probability of obtaining a target accurately.

The results of the study show that it allows you to introduce scattered illumination, which is practically proven in different cases of changes in the angle and intensity of illumination of targets, which has a positive effect on improving the results of rifle shooting. So, it is necessary that the snipers make a distinction between the time of day and the level of illumination during the period of military operas.

Another of the factors of the external environment is the air temperature and humidity. These factors affect the movement of the projectile and the optical nature of the target. As the temperature increases, the air density decreases, and as a result, the air resistance force decreases, the range of the projectile increases. On the contrary, with a decrease in temperature, the density, strength of the air resistance increases, and the range of the projectile decreases. Snipers need to take this into account when performing their duties.

The height and slope of the area are also taken into account. Location relief affects target visibility and accuracy. Snipers need to take this factor into account when marking a pose to mark a target.

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