

Introduction of the classification in accident Risk Factors, its information control and response elements at the National Center for Tuberculosis and Lung Diseases.

Accident Risk Factors

Davit Kukhalashvili

Head of the Infection Control, Monitoring and Occupational Safety Supervision Service at National Center for Tuberculosis and Lung Diseases. Ph.D. student in the doctoral program "Occupational Safety and Health" of the Faculty of Mining and Geology at the Georgian Technical University.

Abstract

The current situation in terms of labor safety in the country are directly reflected in the process of stable development of the state. It is significantly connected to maintaining the skilled and strong working population in the state, establishing and preserving a safe investment environment, which makes this field the most important one for the national security of the country. National Center for Tuberculosis and Lung Diseases is trying to create and improve a safe working environment based on state position. This research also serves to share foreign experience and respect the legislation of own state. Increasing awareness of information related to risk factors of the accidents, occupational safety and risk assessment processes will further improve labor safety at the National Center for Tuberculosis and Lung Diseases.

Key words: occupational safety, infection control, accident risk factors, information control, National Center for Tuberculosis and Lung Diseases.

In order to create sustainable national security within the states, complex measures are aimed at creating and strengthening a system of preventive labor safety. All employees have an obligation to take important preventive actions in the workplace and on the ground to prevent accidents, occupational diseases, to protect the health and life of the employees and others. In the process of organizing a safe working environment, special attention is paid to the identification of accident risk factors and the establishment of an information security process characterized by timeliness, reliability and completeness. Accordingly, since we will have a definite accident risk classifier, we can formulate

a solid information security system. Such approaches help organizations, companies and manufacturing establishments to avoid any accidents in the workplace, respectively financial, moral and legal damage.

National Center for Tuberculosis and Lung Diseases systematically plans and implements preventive measures based on the legislation of Georgia and international experience, processes of the incident and failed accident investigation, video training, video instruction, systematic procedures and instructions. The already mentioned opinion is confirmed by the statistical data, according to which: [1] The following measures were taken by the National Center for Tuberculosis and Lung Disease Infection Control, Monitoring and Occupational Safety Service for January-November 2021:

In terms of occupational safety, 1137 incidents were reported (including 2 incidents belonging to the minor accident category, a team investigation process was conducted around the failed 43 accident cases). In order to prevent a recurrence of incidents, the target groups and their leaders received 90 instructions, 193 training (including 84 video training). There were established 47 units of work safety procedures/instructions, and an electronic library regarding labor safety. Systematically, the results of assessing the situation and risks were sent to employees by e-mail. Employees of all ranks, industry specialists and trade union representatives participated in all these processes.

It should be noted that since January 2020 [2] the assessment of the workplace / on-site situation is carried out taking into account the physical, chemical and biological risk factors, which are based on Finnish experience and do not conflict with Georgian legislation, according to which: [3]

Physical factors are: temperature, humidity, air velocity, heat radiation, ionizing and non-ionizing radiation, industrial noise, ultrasound, infrared, vibration, predominantly fibrogenic aerosols (dust), lighting, aerosols, electrodes;

Chemical factors include: chemical substances obtained, some substances of a biological nature (antibiotics, vitamins, hormones, enzymes, protein preparations) and/or substances for the control of which chemical analysis and detection methods are used;

Biological factors are viruses, living cells and spores, pathogenic microorganisms, microorganisms in preparations - produces.

The analysis of the mentioned sources shows that the risk factors of accidents are not taken into account in the Georgian legislation. Consequently, the need to assess the situation and risks is not on the agenda. According to the labor safety policy of the National Center for Tuberculosis and Lung Diseases, the center is constantly striving to create and improve safe working conditions. Based on this principle, the classification of accident risk factors is prioritized on the agenda and it is introduced in the center.

Nowadays they [4] differentiate risk factors for accidents:

1. **Danger of slipping.** Such a danger may arise when exposed to the workspace, in certain when: there is a risk of slipping on the floor, stairs and corridor due to a faulty sorting-cleaning process. The

same danger is posed by ignoring the process of proper clearing of the roadway that is exposed to frost. The probability of danger increases when food and water are spilled on the floor and it is not possible to clean them in time. The danger is on the face, the floor is wet, and the place is not fenced, no proper warning sign is placed;

2. **Danger of falling.** Such a danger may arise when faced with a workplace with the following situation: the carriage of a cargo of certain size when its transporter's field of vision is limited. The probability of danger is increased when the use of a damaged staircase in the workspace/place, the space and the place where the floor is damaged, which increases the probability of raising the foot, turning the foot. The danger is expected when obstructive objects are fixed at the places / exits, and when the employee is walking on the stairs with a load, the employee makes a sharp turn, which is an important reason for the loss of balance. The danger may arise while ensuring the timely completion of the work process by the employee, at a pronounced speed, while moving a large number of items at once.

3. **Fall from heights, ascents and descents.** Such a hazard may arise when there is a need to ascend and descend at the workplace / site and there is a risk of damage due to: faulty road, frozen, wet surface, lack of dams, road and general warning signs and railings. The probability of danger is increased if depreciated stairs are used during the work, as well as when there is insufficiency of personal protective equipment. Danger may arise when using non-factory scaffolding in the workplace, in case it is not designed correctly, in case of non-standard height of the scaffolding railing someone might fall.

4. **Density between subjects.** Such a danger may arise when there are moving objects in the workplace that can cause full body/partial mutilation in the process of movement;

5. **Danger of staying indoors.** Such a danger may arise when there is a very small exit in the workspace, which is a reason to inspire the risk of being stuck in a narrow and cold building;

6. **Electrical appliances and static electricity.** Such a danger may arise when we come across the use of faulty equipment in the workplace, which poses a risk of electrical damage or a high probability of a fatal outcome;

7. **Cargo shipments and other movements.** Such a danger may arise in the workplace: when transporting cargo, we might see damaged / amortized transport equipment, where there are no pedestrian path and road safety signs. **The probability of danger** is increased if a significant part of the road surface is damaged on the road section.

8. **Oxygenless or lack of oxygen.** Such a danger may arise when loads / items in the workplace / workplace, indoors, as well as in closed containers are distinguished by oxygen uptake.

9. **Danger of getting into the water.** Such a danger may arise when there is no salvation despite the high probability of drowning.

10. Dangers of falling objects / items. Such a danger may arise when objects and things fall into the workplace and fall on the employee / other people, there is a high probability of getting injured in the form of a wound and a cut;

11. Lack of individual and collective remedies. Such a threat may arise when there are no individual and collective remedies to prevent an accident in the workplace, or they exist but are not being used.

12. Dangerous jobs and risks. Such a danger may arise when the workplace is faced with the thought of organizing work in a high-risk environment, using hazardous methods, excluding compliance with procedures and instructions, and refusing to use protective equipment.

13. Special situations and disadvantages. Such a threat may arise when appropriate work is carried out in the workplace/on-site to eliminate special situations and deficiencies, at which time there is still a high probability of an accident occurring because the work is being carried out in violation of safety norms and requirements.

14. Alcohol and drug use. Such a threat may arise when the employees at workplace are in a state of a hangover or under alcohol and drug use.

15. Deficiencies in emergency alarms and rescue equipment. Such a threat may arise when faced with an inoperable security system at work / on-site, with inadequate faulty alarms, or with faulty rescue equipment;

16. Disadvantages in the first aid system. Such a danger may arise when there is no person in charge of first aid detection in the workplace / on-site or there is no training provided in this area, and there are no first-aid facilities on-site.

After defining the classification of accident risk factors, we can describe the important segments of information provided as follows:

1. Physical and video monitoring of the Center for Tuberculosis and Lung Diseases:

1.1. Infection Control, Monitoring and Occupational Safety Supervision Service:

1.1.1. Supervisor (actions to obtain information: workplace visits, analysis of daily reports, telephone, radio communication);

1.1.2. Video monitoring specialist (actions to obtain information: workplace visits, video monitoring, telephone, radio communication);

1.1.3. Physical monitoring specialist (actions to obtain information: bypassing workplaces, using telephone, radio);

1.1.4. Occupational Safety Specialist (actions to obtain information: planned and necessary visits to workplaces, telephone, radio communication);

1.1.5. **Epidemiologist** (actions to obtain information: planned and necessary rotation of workplaces, telephone, radio communication);

1.1.6. **Specialist-Analyst Supervisor** (actions to obtain information: analysis of daily reports, by telephone, using radio communication);

1.1.7. **Specialist in the field of environmental protection** (actions to obtain information: Planned bypassing workspaces, using telephone, radio communication);

(Means of providing information: internal telephone connection, mobile communication means, service e-mail, radio communication, daily, report on work performed, etc.).

2. **Contractor of the Center, Relevant service of the Security Police Department of the Ministry of Internal Affairs**, whose function includes physical and video monitoring of the center's perimeter (means of providing information: internal telephone connection, mobile communication, service e-mail, radio communication, daily work report, etc).

3. **Head of all departments of the Center and employees of the Center**, on the basis of personal notification (means of providing information: internal telephone connection, mobile communication, e-mail of the service, report card, verbal / written statement, etc.);

4. **Other (contractor, visitor, principal, etc.) and third-party (patient)** in the center's workspace on the basis of a personal message (means of providing information: internal telephone connection, mobile communication, service e-mail, verbal / written application and Other);

If the collection of information on the above risk factors during physical monitoring is simplified, incomplete coverage of video monitoring in compliance with Georgian legislation becomes an important favorable condition for information restriction. Nevertheless, the above-listed information sources appear to be limited circumstances for the information vacuum.

Good understanding, timely retrieval and accurate analysis of information on accident risk factors provide an important opportunity to avoid accidents in a timely manner. For example:

Case 1 - Danger of slipping. Video and physical monitoring specialists on duty noticed that the workspace of the center was covered with snow at 05:30, including the section of the road used for traffic - downhill. Due to the rapid variability of temperature, the road froze and the entry of vehicles by 08:30 hours increased the likelihood of road accidents. 30 minutes before the start of the service, the specialists make a decision to completely restrict traffic until the danger is eliminated. This will be the right thing to do, as documenting and forwarding information to the management team carries some risk, and if traffic continues, there is a high probability that an accident will occur.

Case 2 - Danger of falling. At 12:30 pm at the reception of the center, the employees left the folding stairs at the workplace after use, which created a danger of falling due to the high intensity of the movement of third parties - patients in this area. The video surveillance officer created a document confirming the incident to be entered and sent to the "Analytical Report of the work to be performed"

the next day. **This was not a correct action**, because according to the principles of timely prevention of danger, a specialist could carry out the process of informing a competent person by telephone or radio to rectify the situation (timely removal of the ladder).

Upon receipt of the information on accident risk factors, the occupational safety specialist / specialist-analyst sends a warning / instruction document to the target groups on specific factors to ensure timely rectification of the situation, at the same time, a risk assessment is being organized and a group investigation with the qualification of "failed accident" is being carried out (including with the participation of a trade union representative).

At present, the National Center for Tuberculosis and Lung Diseases provides the highest quality information on physical, chemical, biological and ergonomic risk factors, according to the "Situation Study Document" [5], which is the supporting document for risk assessment by the center's divisions. As for accident risk factors, they are not separated and are linked to physical hazard factors. Therefore, it would be appropriate to separate accident risk factors from other types of hazards and to properly complete and review the assessment document.

Nowadays, group investigations are underway at the Center into "Accidents" [6] and "Failed Accidents" [7]. Accordingly, it should be considered acceptable to make an appropriate change in the form already adapted according to the research sub-directions: **"Danger of slipping", "Danger of falling", "Falling from a height, ascents and descents", "Density between objects", "Danger of staying indoors", "Electrical appliances and static electricity", "Cargo shipping and other movements", "Oxygenless or lack of oxygen", "Danger of getting into the water", "Dangers of falling objects", "Lack of individual and collective remedies", "Dangerous jobs and risks", "Special situations and shortcomings", "Alcohol and drug use", "Deficiencies in emergency alarms and rescue equipment", "Disadvantages in the first aid system"**.

One of the most important processes is to control the implementation of the recommendations given as a result of risk assessment and/or warning instruction on accident risk factors, which is a favorable condition for the elimination of hazards in the research direction. Therefore, according to the research, **the facts of non-correction of the situation should be considered as the basis for the investigation** of the incident with the qualification of "accident risk factors".

Thus we can conclude the following:

1. The assessment of the workplace situation should be carried **out in conjunction with the physical**, chemical and biological risk factors for accident risk factors, based on Finnish experience and not in conflict with Georgian law.
2. Gathering, generalization and analysis of information on risk factors for accidents in the workplace will be carried out through the classifier referred to in the study, including the use of physical and video monitoring;

3. The occupational safety specialist will carry out the risk assessment process based on site risk assessment document using the Accident Risk Factor Classifier.

4. **Regarding the risk factors of accidents**, it will be possible to make the change in the existing form for the investigation of group "accident" and "failed accident" in the center, in compliance with the sub-directions of the investigation. This will be significant for the analytical processes.

5. Similar to existing hazards, existing control mechanisms will be implemented to monitor compliance with the risk assessment and/or warning-instruction recommendations, which will be a favorable condition for excluding hazards in the study area. Therefore, according to the research directions, **the facts of non-correction of the situation will be considered** as the basis for the investigation of the incident, qualified as "accident risk factors";

6. By creating the situation described in paragraphs 1-5, a favorable environment will be created in the center to improve safe working conditions;

References

1. Analytical document on the work done by the National Center for Tuberculosis and Lung Diseases, Infection Control, Monitoring and Occupational Safety Supervision Service from January to November 2021, 4985/05 - 30 .11.21;

2. Occupational safety assessment methodology (instruction “) N 64 / 05-18.01. 2020. National Center for Tuberculosis and Lung Diseases. Page 3;

3. Organic Law of Georgia: "On Labor Safety",
<https://matsne.gov.ge/document/view/4486188?Publication=1>;

4. Workplace risk assessment (practical guide). Edition 1. The Finnish Experience. 2016. Georgian Employers' Association (GEA). Page 70.;

5. "Methodology for assessing the situation at the facility in terms of occupational safety (instruction)" N 64 / 05-18.01. 2020. National Center for Tuberculosis and Lung Diseases. 3 pages;

6. "Procedure for investigation and registration of accidents (incidents) that failed at the workplace / place", N 691 / 05-20.02.2020. National Center for Tuberculosis and Lung Diseases. 9 pages;

7. "Rules for registration, investigation and reporting of accidents at work / on-site", N 2147 / 05-27.05.2021. National Center for Tuberculosis and Lung Diseases. 16 pages;

უბედური შემთხვევების რისკის ფაქტორების კლასიფიკატორის დანერგვა, მისი ინფორმაციული კონტროლის და მასზე რეაგირების ელემენტები სს ტუბერკულოზისა და ფილტვის დაავადებათა ეროვნულ ცენტრში

დავით კუხალაშვილი

სს ტუბერკულოზისა და ფილტვის დაავადებათა ეროვნული ცენტრის, ინფექციის კონტროლზე, მონიტორინგზე და შრომის უსაფრთხოებაზე მეთვალყურეობის სამსახურის უფროსი. საქართველოს ტექნიკური უნივერსიტეტის სამთო-გეოლოგიური ფაკულტეტის სადოქტორო პროგრამის „პროფესიული უსაფრთხოება და ჯანმრთელობა“ დოქტორანტი.

აბსტრაქტი

სახელმწიფოში შრომის უსაფრთხოების კუთხით არსებული ვითარება პირდაპირ ასახავს პოვეს სახელმწიფოს სტაბილური განვითარების პროცესზე. იგი პირდაპირ უკავშირდება სახელმწიფოში შრომისა და ბრძოლის უნარიანი მოსახლეობის შენარჩუნებას, უსაფრთხო საინვესტიციო გარემოს შექმნა-შენარჩუნებას, რაც ამ დარგს ქვეყნის ეროვნული უსაფრთხოებისათვის უმნიშვნელოვანესი დარგის სტატუსს სძენს. სს ტუბერკულოზისა და ფილტვის დაავადებათა ეროვნული ცენტრი, სახელმწიფოებრივი პოზიციებიდან გამომდინარე დღენიადაგ ცდილობს უსაფრთხო შრომის გარემოს შექმნა-გაუმჯობესებას. აღნიშნული კვლევა, უცხოური გამოცდილების გაზიარებასა და საკუთარი სახელმწიფოს კანონმდებლობის პატივისცემას ემსახურება. უბედური შემთხვევების რისკის ფაქტორებთან დაკავშირებით ინფორმაციული უზრუნველყოფის, შრომის უსაფრთხოების კუთხით ვითარებისა და რისკების შეფასების პროცესების დანერგვა, სს ტუბერკულოზისა და ფილტვის დაავადებათა ეროვნულ ცენტრში შრომის უსაფრთხოების პროცესის კიდევ უფრო გაუმჯობესებას შეუწყობს ხელს.

საკვანძო სიტყვები: შრომის უსაფრთხოება, ინფექციის კონტროლი, უბედური შემთხვევების რისკის ფაქტორები, ინფორმაციული კონტროლი, ტუბერკულოზისა და ფილტვის დაავადებათა ეროვნული ცენტრი