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THE ROLE OF HEALTH LITERACY IN PREVENTING OCCUPATIONAL DISEASES AMONG MINERS

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Abstract

This article examines the role of health literacy in preventing occupational diseases among miners in Uzbekistan. It focuses on miners' ability to understand workplace health information, apply it during routine tasks, and communicate concerns to supervisors and occupational health professionals. Using exposure to respirable dust and excessive noise as examples, the article considers how miners can interpret the purpose of exposure controls, report problems with protective measures, and understand the role of periodic health examinations. It also examines how plain-language instructions, practical demonstrations, and asking workers to explain procedures in their own words can help occupational health teams identify misunderstandings during training. Health literacy is considered alongside engineering controls, exposure monitoring, and health surveillance within a workplace prevention programme. For medical students, the article illustrates how occupational health consultations can connect a miner's work history with the hazards encountered on the job and communicate preventive measures in terms relevant to the worker's daily tasks.

Keywords: Health literacy, miners, occupational disease prevention, occupational health, risk communication, exposure control, health surveillance.

Introduction

KONCHILARDA KASB KASALLIKLARINING OLDINI OLISHDA TIBBIY SAVODXONLIKNING O‘RNI

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Annotatsiya

Maqolada O‘zbekistonda konchilar o‘rtasida kasb kasalliklarining oldini olishda tibbiy savodxonlikning o‘rni yoritiladi. Asosiy e’tibor konchilarning ish joyida salomatlikka oid axborotni tushunishi, uni kundalik ish jarayonida qo‘llashi hamda salomatlik bilan bog‘liq xavotirlarini ish rahbarlari va mehnat tibbiyoti mutaxassislariga yetkaza olishiga qaratiladi. Nafas yo‘llarining chuqur qismlariga kiradigan mayda chang va yuqori darajadagi shovqin ta’siri misolida zararli omillar ta’sirini kamaytirish choralarining maqsadini tushunish, himoya choralaridagi nosozliklar haqida xabar berish va davriy tibbiy ko‘riklarning ahamiyatini anglash masalalari ko‘rib chiqiladi. Shuningdek, sodda tilda tuzilgan yo‘riqnomalar, amaliy namoyishlar va ishchilardan tegishli tartibni o‘z so‘zlari bilan tushuntirib berishlarini so‘rash o‘quv mashg‘ulotida noto‘g‘ri tushunilgan jihatlarni aniqlashga qanday yordam berishi yoritiladi. Tibbiy savodxonlik ish joyidagi profilaktika dasturida muhandislik choralari, zararli omillar ta’sirini monitoring qilish va konchilar salomatligini kuzatib borish bilan birgalikda ko‘rib chiqiladi. Maqola tibbiyot yo‘nalishi talabalariga kasbiy salomatlik bo‘yicha maslahat jarayonida konchining mehnat faoliyati tarixini ish joyidagi xavf omillari bilan bog‘lash hamda profilaktika choralarini uning kundalik vazifalariga mos tarzda tushuntirish yo‘llarini ko‘rsatadi.

Kalit so‘zlar: tibbiy savodxonlik, konchilar, kasb kasalliklari profilaktikasi, mehnat tibbiyoti, xavflar haqida axborot almashish, zararli omillar ta’sirini nazorat qilish, salomatlik monitoringi.

Introduction

Miners may encounter respirable dust and excessive noise during routine work. Some occupational diseases develop gradually, so workers may feel well while harmful exposure continues. Health literacy helps miners understand why exposure controls and periodic health examinations matter, interpret instructions relevant to their tasks, and communicate concerns when working conditions change. For example, a miner who notices a fault in a dust suppression system needs to know what the system does, whom to notify, and how the report will be handled.

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Workplace communication shapes how miners can use that knowledge. Technical instructions may describe a hazard accurately while leaving workers uncertain about the action expected during a shift. Plain language, demonstrations, and opportunities to ask questions can make instructions easier to apply. Supervisors can reinforce training by explaining how reports are handled, while occupational health professionals can explain the purpose of surveillance and discuss findings with workers. These practices connect health literacy with engineering controls, exposure monitoring, and medical surveillance.

This article examines how health literacy can support occupational disease prevention among miners in Uzbekistan. It focuses on understanding health information, using it during everyday work, and communicating concerns through workplace reporting and health services. For medical students, these tasks provide a basis for practising how to take an occupational history and explain preventive measures in language that reflects a miner's work.

Methods

This article uses a narrative review and scenario analysis to examine how health literacy supports occupational disease prevention among miners. The review draws on occupational health guidance on respirable dust and noise, together with literature on health literacy and risk communication. The analysis examines three actions workers may need to take during a shift or consultation. These include interpreting information about an exposure, identifying the appropriate person to contact, and explaining a concern or question in their own words.

Two scenarios illustrate the approach. In the first, a miner notices that a dust suppression system is malfunctioning. The analysis examines whether the worker can explain the purpose of the system, describe the fault, and identify the reporting route. In the second, a miner receives an explanation of periodic hearing checks. The analysis considers whether the worker can explain why the checks are offered and distinguish hearing surveillance from measures that reduce noise exposure.

For medical education in Uzbekistan, the scenarios are adapted into simulated consultations. Students practise asking about the miner's tasks, work history,

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and exposure concerns. They then explain the purpose of a preventive measure in plain language and ask the miner to describe the next step in their own words. Sample responses are assessed for accuracy, clarity, and whether the proposed action is appropriate to the workplace situation described.

Results

The scenario analysis identified three practical uses of health literacy in occupational disease prevention among miners. Workers can explain why an exposure control matters, describe a problem in terms that help others respond, and interpret the purpose of periodic health checks. Each use involves a different kind of information that can be included in workplace training or discussed during a consultation.

In the dust scenario, a miner who notices that a suppression system has stopped working can report the equipment involved, the location of the fault, and when it occurred. These details help supervisors identify the control that needs inspection. The scenario illustrates how understanding the purpose of a control can be connected to a specific reporting action during a shift.

In the hearing scenario, a worker can explain that periodic hearing checks help identify changes in hearing over time. The worker can also describe how measures that reduce workplace noise serve a separate preventive function. Asking the worker to explain both purposes in their own words gives the clinician a way to identify and clarify misunderstandings.

For medical students in Uzbekistan, the scenarios provide criteria for reviewing simulated consultations. A response can be assessed by checking whether the student connects the hazard to the miner's tasks, explains the preventive measure clearly, and helps the worker identify a practical next step.

Discussion

Health literacy connects what miners learn about occupational hazards with the decisions they make during a shift. A worker may understand that inhaling respirable dust can damage the lungs yet be unsure how to respond when a dust suppression system stops working. Training can address that gap by explaining what the system does, how workers can recognize a problem during their usual

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tasks, and who receives a report. In a practice scenario, a miner can describe the affected equipment, the location, and when the fault was noticed. The supervisor can then explain how the report is recorded and who is responsible for arranging an inspection and communicating the response.

The hearing scenario illustrates why workers need to understand the purpose of each preventive measure. Periodic hearing checks can identify changes in hearing over time, while measures such as equipment maintenance and noise isolation reduce exposure at its source. During a consultation, a clinician can explain what a hearing check measures, how the result will be communicated, and what follow-up may involve. Asking the miner to describe the purpose of the check in their own words helps the clinician see whether the explanation was clear. If the worker interprets a satisfactory result as reassurance that the workplace is quiet enough, the clinician can clarify that hearing checks and workplace noise measurements provide different information.

The quality of workplace communication influences whether miners can act on what they know. A report about a malfunction is easier to make when workers know whom to contact and which details to provide. It is easier to follow up when the workplace assigns responsibility for investigating the report and lets workers know what action was taken. In Uzbekistan, mining enterprises can adapt training materials to workers' preferred languages and to the equipment and reporting procedures at each site. A demonstration during a shift briefing can show workers what information to record, while a short illustrated guide can help them recall the procedure later.

For medical students, a simulated consultation offers practice in taking an occupational history and explaining preventive measures. Students can ask what tasks the miner performs, where the work takes place, how often the task is repeated, and what controls are normally used. A miner who reports working around noisy machinery, for example, may also describe changes in duties or equipment that help the clinician understand the exposure history. Such questions connect the health discussion with the worker's actual experience and help students explain why information about job tasks matters when interpreting surveillance findings.

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Assessment can focus on whether the student identifies the relevant exposure, explains the purpose of a control or health check in plain language, and confirms that the worker understands the next step. Feedback can address a specific point in the exchange, such as whether the student explained whom to contact about a faulty control or checked how the worker understood a hearing result. These exercises allow trainees to practise communication within a prevention programme that depends on employers maintaining controls, monitoring exposures, and providing access to occupational health services for workers across shifts and work areas.

Conclusion

Health literacy supports occupational disease prevention among miners by helping workers interpret information about hazards, understand the purpose of preventive measures, and communicate concerns during a shift or an occupational health consultation. When a dust suppression system malfunctions, a worker can describe the affected equipment, the location, and the time of the fault. During hearing surveillance, a worker can ask what the examination measures, how the results will be communicated, and what follow-up may involve.

Mining enterprises in Uzbekistan can reinforce these skills through plain-language instructions, demonstrations based on everyday tasks, and clear reporting procedures. Supervisors can explain who investigates a reported fault and how workers will be informed of the response. Occupational health professionals can ask workers to explain the purpose of a preventive measure in their own words and use the answer to clarify any misunderstanding. These communication practices form part of a prevention programme that includes engineering controls, exposure monitoring, and periodic health examinations.

For medical students, simulated consultations can connect occupational history taking with practical risk communication. Students can ask about job tasks, equipment, and exposure concerns, then explain a preventive measure in terms relevant to the miner's work. Assessment can focus on whether the student connects the hazard to a specific task, explains the measure clearly, and checks that the worker understands the next step to take.

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