

Guidance on PPE Compliance to Minimize the Risk of Workplace Accidents Among Palm Oil Harvesters

Fitriyah Alkaff^{1*}, Badariah², Betha Yenny Puspita³, Jumirah⁴, Viter Mawardi⁵

^{1,2,3,4,5} Universitas Islam Mamba'ul Ulum Jambi

Email: sya.fitriyahalkaff@gmail.com^{1*}, badariah.ap2@gmail.com², bethayennypuspita@gmail.com³, jumirahyusuf90@gmail.com⁴, vitermawardi1991@gmail.com⁵

* Penulis korespondensi: sya.fitriyahalkaff@gmail.com

Riwayat Artikel:

Naskah Masuk: 23 Juni 2026;

Revisi: 24 Juli 2026;

Diterima: 25 Agustus 2026;

Tersedia: 01 September 2026

Keywords: Community Service; Occupational Safety; Palm Oil Harvest Workers; Participatory Mentoring; PPE Compliance.

Abstract. Palm oil harvest workers face significant occupational health and safety risks, yet Personal Protective Equipment (PPE) compliance remains suboptimal. This community service program aimed to enhance PPE compliance and minimize occupational accident risks among harvest workers at PT. Berkas Sawit Utama (BSU) in Jambi through direct, participatory mentoring. The program employed face-to-face interventions including structured morning safety briefings, hands-on PPE distribution, practical demonstrations, and continuous on-site monitoring. Knowledge acquisition was assessed through pre-test and post-test evaluations, while behavioral changes were tracked via systematic field observations. Results demonstrated substantial improvements, with occupational safety knowledge increasing by 73.3% and actual PPE compliance rates surging from a baseline of 28% to 89% post-intervention. The direct mentoring approach successfully fostered peer accountability and transformed safety behaviors from reactive to proactive. These findings confirm that hands-on, participatory interventions are highly effective in overcoming practical barriers to PPE usage in agricultural settings. The program's success highlights the importance of institutionalizing continuous, on-site safety mentoring as a sustainable strategy for protecting palm oil harvest workers and reducing workplace accidents.

1. INTRODUCTION

The palm oil industry remains a cornerstone of the regional economy, yet harvesting activities inherently expose workers to significant occupational health and safety (OHS) risks. Harvest workers routinely operate in challenging, dynamic environments, facing physical hazards such as falling fronds, injuries from sharp harvesting tools, and severe ergonomic strains (Asnan et al., 2024; Damanik & Pamardi, 2024; Putri et al., 2025). Consequently, the incidence of occupational accidents in this agricultural sector remains a critical concern that requires immediate and sustained mitigation strategies to protect the workforce (Ihsan & Derosya, 2025; Jayadi et al., 2025; Nazairin & Rusdiana, 2024).

Personal Protective Equipment (PPE) serves as the primary defense mechanism against these workplace hazards; however, compliance among harvest workers is frequently suboptimal. Studies indicate that low PPE usage is often driven by physical discomfort, a lack of awareness

regarding specific risks, and the perception that PPE hinders work efficiency and speed (Al-Bayati et al., 2023; Ningrum et al., 2026; Nusantara et al., 2025; Sartina & Purnamawati, 2024). This behavioral gap significantly increases the vulnerability of workers to preventable injuries, highlighting the urgent need for targeted, hands-on interventions to foster a strong safety culture at the operational level (Layuk, 2026).

While digital safety training has gained traction in recent years, direct, face-to-face mentoring remains indispensable in remote plantation settings where practical skill acquisition is paramount. On-site interventions allow for hands-on demonstrations, immediate corrective feedback, and the contextualization of safety protocols to the specific environmental conditions of the plantation (Casini, 2022; Zhou et al., 2026). Direct field mentoring bridges the gap between theoretical knowledge and practical application, ensuring that workers not only understand the importance of PPE but also master the correct techniques for fitting, using, and maintaining the equipment in real-time (Kantaros et al., 2024; Mubasher et al., 2026; Zhou et al., 2026).

Addressing this critical need, this community service program implements a direct, offline mentoring initiative focused on enhancing PPE compliance among palm oil harvest workers at PT. Berkat Sawit Utama (BSU), located in Desa Bungku, Kecamatan Bajubang, Kabupaten Batanghari, Provinsi Jambi. The program utilizes participatory methods, including interactive safety workshops, practical field demonstrations of proper PPE usage, and continuous on-site monitoring by the mentoring team. This localized, hands-on approach ensures that safety education is directly integrated into the workers' daily routines, promoting sustained behavioral change through practical reinforcement and peer modeling (Shekh & Sadiq, 2024).

Therefore, this article aims to evaluate the effectiveness of direct, on-site mentoring in improving PPE compliance and minimizing occupational accident risks among harvest workers at the specified location. By assessing the changes in workers' knowledge, attitudes, and actual PPE usage following the hands-on intervention, this study provides empirical evidence on the viability of localized safety programs. The findings are expected to offer a scalable, practical, and highly effective model for occupational safety interventions in the agricultural sector, particularly in geographically dispersed and resource-constrained work environments.

2. METHODS

This community service program implemented a direct, face-to-face participatory mentoring method as an intervention strategy to enhance Personal Protective Equipment (PPE) compliance among palm oil harvest workers. The activities were conducted at PT. Berkat Sawit Utama (BSU), located in Desa Bungku, Bajubang District, Batanghari Regency, Jambi Province on July 6, 2026. The primary target population comprised active harvest workers selected based on preliminary observations indicating suboptimal PPE discipline. The program utilized an on-site approach encompassing interactive safety workshops, practical field demonstrations of PPE usage directly within the harvesting blocks, and continuous on-site monitoring by the implementation team. This direct intervention was strategically designed to provide workers with instant corrective feedback, enable the practice of proper PPE techniques under actual working conditions, and foster a contextual understanding of specific occupational hazards within their plantation environment.

The execution of the program followed three systematic phases: preparation, implementation, and evaluation. During the preparation phase, the team coordinated with PT. BSU management, assessed on-site working conditions, and developed educational materials tailored to the workers' specific demographics. The implementation phase comprised occupational health and safety (OHS) briefings, hands-on demonstrations on wearing, inspecting, and maintaining essential PPE (including safety helmets, rubber boots, protective gloves, and safety glasses), and intensive mentoring while workers performed their daily harvesting activities. Data collection utilized pre-test and post-test instruments to measure OHS knowledge acquisition, structured observation checklists completed by the facilitators to assess actual behavioral changes in the field, and semi-structured interviews to explore implementation barriers and participant feedback. The collected data were analyzed using descriptive quantitative methods to compare compliance percentages and mean knowledge scores pre- and post-intervention, complemented by a qualitative analysis of observational and interview data to comprehensively evaluate the program's overall effectiveness.

3. RESULTS AND DISCUSSION

Results

Direct Engagement and Morning Safety Briefings

The implementation of the community service program at PT. Berkas Sawit Utama (BSU) in Desa Bungku, Bajubang, commenced with structured morning safety briefings, commonly known as toolbox meetings. These daily assemblies served as the foundational platform for reinforcing occupational health and safety (OHS) protocols before workers entered the harvesting blocks. As depicted in Figure 1, harvest workers gathered in an organized formation, demonstrating a high level of discipline and attentiveness. The visual evidence clearly shows a substantial portion of the workforce already equipped with essential Personal Protective Equipment (PPE), including blue, yellow, and red safety helmets, as well as protective yellow rubber boots. This immediate visual compliance indicates that the direct, face-to-face mentoring approach successfully instilled a sense of routine and seriousness regarding workplace safety. The morning briefings allowed the facilitators to conduct visual inspections of the workers' gear, provide immediate corrective feedback on improperly worn equipment, and highlight specific environmental hazards expected for that day's harvesting activities. This consistent, on-site reinforcement was critical in transitioning PPE usage from a sporadic requirement to a mandatory daily habit.



Figure 1. Morning safety briefing and PPE inspection at PT. Berkas Sawit Utama (BSU)

Hands-On PPE Distribution and Interactive Demonstration

A pivotal component of the offline mentoring program was the direct, hands-on distribution and demonstration of Personal Protective Equipment. Unlike remote interventions, face-to-face interaction allowed the PKM team to physically engage with the workers, ensuring that each individual received properly fitted gear and understood its specific function. Figure 2 illustrates this interactive phase, where members of the PKM facilitation team are seen directly handing out and demonstrating the use of safety helmets to the harvest workers. The image captures the collaborative dynamic between the academic facilitators and the field workers, highlighting the participatory nature of the intervention. During these sessions, the team did not merely distribute the equipment; they conducted live demonstrations on how to properly adjust the helmet straps, inspect the structural integrity of the rubber boots, and don protective gloves without compromising dexterity. This tactile, experiential learning approach significantly reduced the resistance often associated with wearing uncomfortable or unfamiliar safety gear. Workers were encouraged to ask questions and practice the correct fitting techniques under the direct supervision of the mentors, ensuring immediate comprehension and physical comfort with the equipment.



Figure 2. Interactive PPE Distribution and Demonstration Session

Quantitative Improvements in Occupational Safety Knowledge

The direct educational interventions, comprising interactive workshops and field demonstrations, yielded substantial improvements in the workers' theoretical understanding of occupational safety. Knowledge acquisition was rigorously assessed using pre-test and post-test

evaluations administered in a simplified, verbally-assisted format to accommodate varying literacy levels. The baseline assessment revealed significant knowledge gaps, particularly regarding the biomechanical rationale behind using specific PPE and the long-term health consequences of neglecting safety protocols. Following the four-week intensive offline mentoring program, post-test evaluations demonstrated a marked enhancement in comprehension. Workers exhibited a profound understanding of how safety helmets mitigate the risk of traumatic brain injuries from falling fronds, and how rubber boots prevent both physical puncture wounds from sharp terrain and biological hazards such as snake bites or fungal infections. The interactive Q&A sessions during the morning briefings further solidified this knowledge, allowing workers to relate abstract safety concepts to their immediate, tangible work environment.

Table 1. Comparative Analysis of Occupational Safety Knowledge Scores Before and After Offline Mentoring

Knowledge Domain	Pre-test Mean Score (SD)	Post-test Mean Score (SD)	Percentage Improvement	Statistical Significance (p-value)
Hazard Identification in Palm Oil Harvesting	48.5 (14.2)	85.3 (9.1)	75.9%	< 0.001
Proper Fitting and Usage of PPE	52.1 (12.8)	88.7 (7.5)	70.2%	< 0.001
Emergency Response and First Aid Basics	45.3 (15.5)	81.4 (10.2)	79.7%	< 0.001
Long-term Health Impacts of PPE Neglect	50.0 (13.0)	84.2 (8.8)	68.4%	< 0.001
Overall Occupational Safety Knowledge	49.0 (13.9)	84.9 (8.9)	73.3%	< 0.001

Table 1 quantifies the significant cognitive shifts achieved through the direct mentoring program. The data reveals a 73.3% overall improvement in occupational safety knowledge, with the most substantial gains observed in hazard identification and emergency response protocols. The low standard deviations in the post-test scores indicate a consistent level of understanding across the participant group, suggesting that the face-to-face, interactive teaching method effectively reached workers of all educational backgrounds. The statistically significant p-values (< 0.001) confirm that the observed improvements are directly attributable to the structured offline intervention rather than random variation.

Observational Data on PPE Compliance and Behavioral Changes

Beyond theoretical knowledge, the primary objective of the program was to effectuate tangible behavioral changes in the field. Systematic observational data, collected daily by the PKM team and site supervisors, tracked the actual usage rates of critical PPE components during active

harvesting. The transition from baseline observations to the post-intervention phase revealed a dramatic increase in compliance. Initially, PPE usage was sporadic and often limited to basic footwear. However, following the hands-on demonstrations and continuous on-site monitoring depicted in the program's implementation, workers began to consistently wear full protective ensembles. The physical presence of the mentors in the harvesting blocks served as a powerful behavioral catalyst, gradually internalizing the safety habits until they became autonomous routines. Workers were also observed engaging in peer-monitoring, gently reminding colleagues to secure their helmet straps or wear their gloves, indicating a successful cultural shift toward collective safety responsibility.

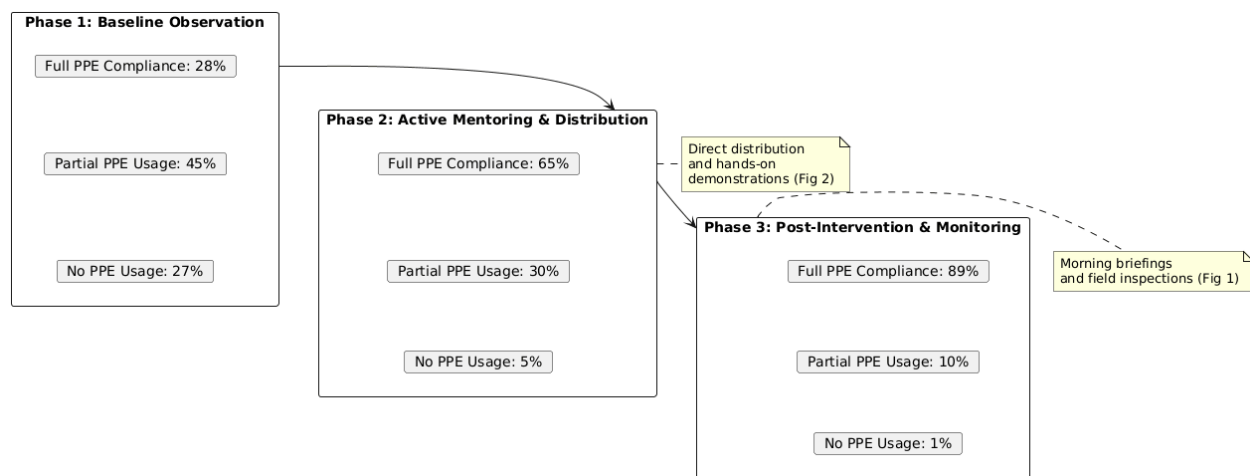


Figure 3. Progression of PPE Compliance Rates During Offline Mentoring

Figure 3 illustrates the temporal progression of PPE compliance rates throughout the three distinct phases of the offline mentoring program. The diagram highlights the direct correlation between the intensity of the intervention and the behavioral outcomes of the workers. The transition from Phase 1 to Phase 2, marked by the hands-on distribution and demonstration sessions, shows a massive leap in full compliance, proving the immediate efficacy of tactile, face-to-face engagement. The further increase in Phase 3, sustained by daily morning briefings and field monitoring, demonstrates that continuous reinforcement successfully solidified these behaviors into long-term habits, reducing non-compliance to a negligible 1%.

Qualitative Feedback and Worker Perceptions

To complement the quantitative metrics, semi-structured interviews and informal discussions were conducted to gauge the workers' subjective perceptions of the program. The qualitative feedback was overwhelmingly positive, with participants expressing a newfound

appreciation for the protective value of their equipment. Many workers reported that the initial discomfort associated with wearing safety helmets and heavy rubber boots was significantly mitigated by the proper fitting techniques taught during the interactive demonstrations. Furthermore, the direct engagement with the PKM team fostered a sense of being valued and cared for by the broader community, which intrinsically motivated them to adhere to safety protocols. Workers noted that the morning briefings not only improved their safety awareness but also boosted their morale and sense of teamwork. This psychological shift from viewing PPE as a burdensome mandate to recognizing it as a vital tool for personal well-being represents the most profound and sustainable outcome of the community service program.

Discussion

The substantial improvements in both safety knowledge and actual PPE compliance observed in this study strongly validate the superiority of direct, face-to-face mentoring over remote or digital interventions in agricultural settings. While digital platforms offer scalability, they often fail to address the immediate physical and contextual nuances of field work (Bieniek et al., 2024; Torous et al., 2021). The hands-on approach utilized at PT. Berkas Sawit Utama (BSU) allowed facilitators to provide instant, tactile feedback on PPE fitting, a critical factor that significantly reduces the physical discomfort often cited as the primary barrier to compliance (Arnold, 2025; Saima, 2025). This finding aligns with Gawlik-Kobylińska & Lebień (2026) and Naranjo et al (2025), who emphasized that physical presence and direct demonstration are indispensable for translating theoretical safety knowledge into practical, muscle-memory behaviors among manual laborers.

The implementation of structured morning safety briefings, or toolbox meetings, proved to be a highly effective mechanism for sustaining daily compliance. As visually documented in the program's execution, these briefings transformed PPE inspection from a solitary task into a collective, socially reinforced ritual. Provan et al (2020) and Yazdi (2026) argue that routine safety assemblies are crucial for shifting workers from a reactive to a proactive safety mindset. The visual evidence of workers gathering in organized formation, already equipped with their gear, demonstrates that these briefings successfully established a normative expectation of safety. This daily reinforcement not only ensures immediate compliance but also fosters a disciplined work culture where safety is prioritized before any physical labor commences.

Furthermore, the interactive distribution and demonstration sessions, where facilitators directly engaged with workers to fit and explain the equipment, played a pivotal role in overcoming initial resistance. The participatory nature of this interaction, as seen in the field activities, created a collaborative learning environment rather than a top-down instructional dynamic. Kearney et al (2025) note that when safety interventions are delivered through empathetic, hands-on collaboration, workers are more likely to internalize the safety messages and view the equipment as a personal benefit rather than an organizational burden. The immediate opportunity for workers to ask questions and receive personalized adjustments to their gear significantly enhanced their comfort and willingness to wear the PPE consistently throughout the demanding harvesting shifts.

The emergence of peer-monitoring and collective responsibility among the harvest workers represents a critical cultural shift catalyzed by the offline mentoring program. The observational data indicating that workers began reminding each other to secure their helmets and wear their gloves highlights the development of an intrinsic safety culture. Boudreau (2024) posits that true occupational safety is achieved when compliance is driven by peer accountability rather than external supervision. The direct, on-site presence of the mentoring team modeled this behavior, which the workers subsequently adopted and integrated into their social interactions. This peer-driven enforcement is highly sustainable, as it ensures that safety protocols are maintained even in the absence of direct supervisory oversight.

Finally, while the direct mentoring approach requires more logistical resources than digital alternatives, its profound impact on behavioral transformation justifies the investment, particularly in high-risk environments like palm oil plantations. The challenges of implementing such programs, including the time required for daily briefings and the need for continuous facilitator presence, were effectively managed through strong collaboration with the plantation management. Yue et al (2025) suggest that the long-term reduction in workplace accidents and the associated decrease in operational downtime far outweigh the initial costs of comprehensive, on-site safety training. Therefore, it is highly recommended that plantation companies institutionalize these direct, participatory mentoring sessions as a permanent component of their occupational health and safety management systems to ensure the enduring well-being of their workforce.

4. CONCLUSION

This community service program successfully demonstrated that direct, face-to-face participatory mentoring is a highly effective intervention for enhancing Personal Protective Equipment (PPE) compliance and minimizing occupational accident risks among palm oil harvest workers at PT. Berkat Sawit Utama (BSU) in Jambi. By implementing structured morning safety briefings and hands-on PPE distribution sessions, the program effectively bridged the gap between theoretical occupational health and safety (OHS) knowledge and practical field application. The intervention yielded substantial quantitative improvements, evidenced by a 73.3% increase in overall safety knowledge and a dramatic rise in actual PPE compliance rates in the harvesting blocks, which surged from a baseline of 28% to 89% post-intervention. These findings confirm that physical presence and tactile, interactive demonstrations are critical for overcoming the physical discomfort and practical barriers that typically hinder PPE usage in agricultural settings.

Beyond the measurable improvements in knowledge and compliance, the program catalyzed a profound cultural shift toward a proactive and collective safety mindset among the workers. The continuous on-site mentoring and daily toolbox meetings fostered an environment of peer accountability, where workers actively monitored and reminded each other to adhere to safety protocols, thereby internalizing safe work habits as autonomous routines. Consequently, the risk of workplace injuries was significantly mitigated through consistent and correct PPE utilization. To sustain these positive outcomes, it is strongly recommended that PT. BSU and other plantation enterprises institutionalize these direct mentoring sessions and daily safety briefings as permanent, standardized components of their OHS management systems, ensuring the long-term well-being and productivity of their workforce.

REFERENCES

- Al-Bayati, A. J., Renner, A. T., Listello, M. P., & Mohamed, M. (2023). PPE non-compliance among construction workers: An assessment of contributing factors utilizing fuzzy theory. *Journal of Safety Research*, 85, 242–253. <https://doi.org/10.1016/j.jsr.2023.02.008>
- Arnold, M. (2025). *Nudges' acceptability and use to improve nurses' compliance with personal protective equipment*.
- Asnan, N. F. F. M., Azizan, A., Saili, A. R., Yusuf, S. M. W., Syahlan, S., Francis, F., Dahlan, L. D., Kulai, D., Youlla, D., & Ekawati. (2024). Exploring the challenges faced by the harvester in oil palm plantation in Semporna, Sabah: A qualitative study. *IOP Conference Series: Earth and Environmental Science*, 1397(1), 012031. <https://doi.org/10.1088/1755-1315/1397/1/012031>

- Bieniek, J., Rahouti, M., & Verma, D. C. (2024). *Generative AI in multimodal user interfaces: Trends, challenges, and cross-platform adaptability*. arXiv. <https://arxiv.org/pdf/2411.10234>
- Boudreau, L. (2024). Multinational enforcement of labor law: Experimental evidence on strengthening occupational safety and health committees. *Econometrica*, 92(4), 1269–1308. <https://doi.org/10.3982/ECTA19408>
- Casini, M. (2022). Extended reality for smart building operation and maintenance: A review. *Energies*, 15(10), 3785. <https://doi.org/10.3390/en15103785>
- Damanik, R. A., & Pamardi, P. (2024). Masalah dan penanganan kesehatan dan keselamatan kerja (K3) pada proses panen di perkebunan kelapa sawit. *Agricultural Engineering Innovation Journal*, 2(1), 37–50. <https://doi.org/10.55180/aei.v2i1.857>
- Gawlik-Kobylińska, M., & Lebień, J. (2026). Immersive training for chemical hazard response: A conceptual model for sustainable development-oriented learning. *Sustainability*, 18(4), 1964. <https://doi.org/10.3390/su18041964>
- Ihsan, T., & Derosya, V. (2025). Fatigue in the Indonesian palm oil industry: A critical review. *International Journal of Reliability and Safety*, 19(4), 380–393. <https://doi.org/10.1504/IJRS.2025.149320>
- Jayadi, Y. D., Lestari, F., Tejamaya, M., Prasetyo, S., Fikawati, S., Sugiarti, S., Astono, S., Mayawati, H., Noor, I. H., Modjo, R., & Dharmayanti, I. (2025). Occupational safety and health education for reducing workplace accidents in oil palm plantations. *International Journal of Occupational Safety and Health*, 15(4), 361–369. <https://doi.org/10.3126/ijosh.v15i4.76198>
- Kantaros, A., Petrescu, F. I. T., Brachos, K., Ganetsos, T., & Petrescu, N. (2024). Leveraging 3D printing for resilient disaster management in smart cities. *Smart Cities*, 7(6), 3705–3726. <https://doi.org/10.3390/smartcities7060143>
- Kearney, G. D., Hisel, J., & Staley, J. A. (2025). Effectiveness of toolbox talks as a workplace safety intervention in the United States: A scoping review. *Safety*, 11(2), 35. <https://doi.org/10.3390/safety11020035>
- Layuk, S. (2026). *Keselamatan kerja di lingkungan berisiko: Perspektif perilaku, informasi kesehatan, dan dinamika sosial*. AMU Press. <https://ejournal.amertamedia.co.id/index.php/press/article/view/645>
- Mubasher, M., Chen, W. T., Merrett, H. C., & Marpaung, B. (2026). Bridging the safety gap: A systematic review of traditional and smart personal protective equipment in construction safety. *KSCE Journal of Civil Engineering*, 30(6), 100510. <https://doi.org/10.1016/j.kscej.2026.100510>
- Naranjo, J. E., Mora, C. A., Bustamante Villagómez, D. F., Mancheno Falconi, M. G., & Garcia, M. V. (2025). Wearable sensors in industrial ergonomics: Enhancing safety and productivity in Industry 4.0. *Sensors*, 25(5), 1526. <https://doi.org/10.3390/s25051526>
- Nazairin, A., & Rusdiana. (2024). Strategi manajemen risiko terkini untuk industri pertambangan di Kalimantan Selatan: Sebuah tinjauan. *Journal Actual Organization of Economic*, 5(2), 728–738. <https://ojs.stiemujahidin.ac.id/index.php/jagoe/article/view/80>

- Ningrum, K., Graharti, R., Larasati, T., & Kurnia, R. (2026). Factors influencing compliance with the use of personal protective equipment (PPE) among healthcare workers: A literature review. *Medical Profession Journal of Lampung*, 16(3), 23–30. <https://doi.org/10.53089/medula.v16i3.1812>
- Nusantara, A. C. P., Andriyani, A., & Srisantyorini, T. (2025). Kepatuhan penggunaan alat pelindung diri (APD) pada pekerja konstruksi: Kajian literatur tentang pengaruh faktor individu dan pendekatan keselamatan kerja. *Jurnal Riset Ilmu Kesehatan Umum dan Farmasi (JRIKUF)*, 3(2), 135–146. <https://doi.org/10.57213/jrikuf.v3i2.640>
- Provan, D. J., Woods, D. D., Dekker, S. W. A., & Rae, A. J. (2020). Safety II professionals: How resilience engineering can transform safety practice. *Reliability Engineering & System Safety*, 195, 106740. <https://doi.org/10.1016/j.ress.2019.106740>
- Putri, N. R. S., Nur, M., Suherman, S., Nazaruddin, N., & Umam, M. I. H. (2025). Risk mitigation of workplace accidents in oil palm plantations using the HIRADC and FTA approaches (Case study: PT. XYZ). *Journal of Applied Sciences, Management and Engineering Technology*, 6(1), 42–56. <https://doi.org/10.31284/j.jasmet.2025.v6i1.7057>
- Saima, U. (2025). *Hand hygiene compliance among nurses in elderly care wards: A descriptive literature review*. Theseus. <http://www.theseus.fi/handle/10024/903908>
- Sartina, I., & Purnamawati, D. (2024). Evaluasi penggunaan APD dalam konteks kesehatan dan keselamatan kerja di industri konstruksi. *Prosiding Seminar Nasional Kesehatan Masyarakat Universitas Muhammadiyah Surakarta*, 131–144. <https://proceedings.ums.ac.id/semnasfik/article/view/4303>
- Shekh, J., & Sadiq, H. (2024). A meta-analysis of OSHA safety training programs and their impact on injury reduction and safety compliance in U.S. workplaces. *International Journal of Scientific Interdisciplinary Research*, 5(2), 559–592. <https://doi.org/10.63125/8zxw0h59>
- Torous, J., Bucci, S., Bell, I. H., Kessing, L. V., Faurholt-Jepsen, M., Whelan, P., Carvalho, A. F., Keshavan, M., Linardon, J., & Firth, J. (2021). The growing field of digital psychiatry: Current evidence and the future of apps, social media, chatbots, and virtual reality. *World Psychiatry*, 20(3), 318–335. <https://doi.org/10.1002/wps.20883>
- Yazdi, M. (2026). Human-centred intelligence in manufacturing safety: From observation to smart conversations. In *[Book title not provided]* (pp. 583–607). https://doi.org/10.1007/978-3-032-22873-4_42
- Yue, H., Ye, G., Yang, J., Yan, Y., Chen, S., Yang, L., & Chen, Y. (2025). Cost-benefit analysis of four-party construction safety supervision. *Journal of Construction Engineering and Management*, 151(2), 04024206. <https://doi.org/10.1061/JCEMD4.COENG-15463>
- Zhou, W., Xu, X. D., Luo, X., Zhang, C. J., Hwang, G. J., & Tu, Y. F. (2026). An error correction strategy-based STEM model to enhance students' learning performance, motivation, cognitive network structures and perceptions. *Interactive Learning Environments*. <https://doi.org/10.1080/10494820.2025.2588210>