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# OCCUPATIONAL HEALTH AND SAFETY AMONG NURSES – A PILOT STUDY IN THE SRM HOSPITAL AT KATTANKULLATTUR.

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# **ABSTRACT:**

Occupational health and safety (OHS) is a crucial aspect of nursing practice as it ensures the safety and well-being of nurses, patients, and the healthcare environment. This abstract explores the topic of OHS among nurses, including the various occupational hazards they face, the impact of these hazards on their physical and mental health, and the measures that can be taken to mitigate these risks. The abstract also highlights the importance of OHS training and education for nurses, as well as the role of healthcare organizations in promoting a safe and healthy work environment for their nursing staff. By prioritizing OHS, nurses can provide high-quality patient care while protecting their own health and safety. Study the precautions of Occupational health and safety OHS workers of SRM Hospital. Analysis the Working Environment, Knowledge of OHS, Perception of OHS by Educational at SRM Hospital. Analysis the Working Environment, Attitude of OHS, Practices of OHS by Experience SRM Hospital. Construct a model for participation Occupational health and safety OHS in SRM Hospital. Total 70 respondents were selected from nurses in SRM hospitals at the kattankullattur campus in chengalppatt districts.A statistical random sampling technique was used to select 70 nurses in SRM hospitals at the kattankullattur campus in chengalppatt districts. The structural questionnaire has been used for the purpose. Three sections make up the final survey. The demographic questions in the first section pertain to region, gender, family kinds, marital status, age, educational attainment, and income, as well as the experience of nurses at seven private hospitals in the Trichy districts and their overall professional experience. The second parts include six factors of questions determining the nurses SRM hospitals at the kattankullattur campus in chengalppatt districts., as well as promotional tools, the respondents' choices. The second section contains a 5-point statement that is based on the traits and ranges from strongly agreeing (5 points) to strongly disagreeing (1 point). In IBM SPSS statistics version 20, ANOVA tools were used this study. the participation of occupational health and safety among nurses is essential to ensure that nurses can perform their duties safely and effectively. We must continue to prioritize this issue and work together to develop effective solutions that protect the health and wellbeing of nurses and ultimately, improve patient care.

**KEYWORDS:**Occupational health and safety (OHS), Working Environment, Hospital Nurse. Satisfaction of OHS.

# 1. INTRODUCTION:

**1.1. OCCUPATION:** An occupation refers to a person's regular or principal job or profession, usually involving a specific skill set or area of expertise. It is a means of earning a livelihood and



typically requires some level of training, education, or experience. Occupations can be classified according to industry, such as healthcare or finance, or by job function, such as management or customer service. A person's occupation often plays a significant role in their identity, social status, and overall quality of life.

- **1.2. OCCUPATIONAL HEALTH:**Occupational health refers to the promotion and maintenance of physical, mental, and social well-being in the workplace. It involves identifying, assessing, and controlling hazards and risks that can cause harm to workers, such as exposure to toxic substances, physical strain, or stress. Occupational health also encompasses the prevention and management of work-related injuries, illnesses, and disabilities.
- **1.3. OCCUPATIONAL SAFTEY:** Occupational safety refers to the measures taken to prevent and control workplace hazards and to ensure the health and safety of workers. It involves identifying potential safety risks in the workplace and taking steps to mitigate them, such as implementing safety procedures, providing safety equipment, and conducting safety training for employees.
- **1.4. OCCUPATIONAL HEALTH AND SAFTEY:**Occupational health and safety (OHS) is a multidisciplinary field concerned with protecting the health, safety, and well-being of workers in the workplace. It involves identifying and assessing workplace hazards, implementing measures to control and prevent these hazards, and providing education and training to workers to promote safe work practices.

# 1.5. TYPES OF OCCUPATIONAL HEALTH AND SAFTEY:

Occupational health and safety (OHS) hazards and risks can be present in various forms. Here are some common types of OHS hazards.

- **1. Biological hazards**: Healthcare workers are at risk of exposure to infectious diseases such as tuberculosis, hepatitis, and HIV/AIDS.
- **2.** Chemical hazards: Hospital staff may be exposed to hazardous chemicals such as disinfectants, cleaning agents, and medications.
- **3. Physical hazards**: These can include risks such as noise, temperature extremes, radiation, and ergonomic hazards such as heavy lifting or repetitive motions.
- **4. Workplace violence**: Hospital staff may face threats or acts of violence from patients or visitors.
- **5. Ergonomic hazards**: Healthcare workers may be at risk of musculoskeletal disorders due to lifting and moving patients or working in awkward postures.
- **6. Slip, trip, and fall hazards**: Hospital workers are at risk of slips, trips, and falls due to wet or slippery floors, cluttered or obstructed walkways, or uneven surfaces.
- **7. Fire and electrical hazards:** Hospitals are complex environments with many electrical and heating systems that pose potential hazards.

To manage these risks, hospitals should implement a comprehensive OHS program that includes risk assessments, training, provision of personal protective equipment (PPE), and other preventive measures. Staff should be trained in proper handling and disposal of hazardous



materials, use of proper ergonomic techniques, and responding to workplace violence. Regular inspections and audits of the hospital environment should also be conducted to identify and mitigate hazards. By identifying and managing these hazards, hospitals can provide a safe and healthy environment for staff, patients, and visitors.

# 1.6. OCCUPATIONAL HEALTH AND SAFETY (OHS) PRECAUTIONS:

Occupational health and safety (OHS) precautions are measures that are put in place to protect workers from workplace hazards and to promote a safe and healthy work environment. Here are some common OHS precautions that employers can take:

- **1. Conduct risk assessments**: Employers should regularly assess the workplace for hazards and risks to employee health and safety.
- **2. Provide training**: Employees should be trained on how to safely perform their job duties, use equipment and machinery, and how to respond to emergencies.
- **3. Provide personal protective equipment (PPE):** Employers should provide workers with appropriate PPE, such as gloves, masks, goggles, and respirators, to protect against workplace hazards.
- **4.Implement engineering controls:** Employers should implement engineering controls such as ventilation systems, barriers, and machine guards to control or eliminate hazards.
- **5. Promote good housekeeping:** Employers should promote good housekeeping practices to prevent slips, trips, and falls, and to minimize the accumulation of dust, debris, and other hazards.
- **6. Manage stress**: Employers should work to minimize job-related stress through measures such as flexible work hours, employee assistance programs, and stress management training.
- 7. Provide first aid: Employers should provide first aid facilities and ensure that employees are trained in basic first aid procedures.
- **8.** Encourage reporting of incidents and near-misses: Employers should encourage employees to report any incidents or near-misses so that steps can be taken to prevent future occurrences.
- **9. Conduct regular inspections**: Employers should conduct regular inspections to identify and address any hazards or unsafe practices.

By implementing these precautions, employers can help to create a safe and healthy work environment for their employees, and reduce the risk of workplace injuries and illnesses.

# 1.7. NURSE:

A nurse is a healthcare professional who is responsible for the care of individuals, families, and communities to promote, maintain, and restore health and prevent illness. Nurses work in a variety of settings such as hospitals, clinics, long-term care facilities, schools, and community health centers. They collaborate with other healthcare professionals to provide patient-centered care and work as advocates for patients and their families.

There are various types of nurses, each with their own areas of specialization and responsibilities. Here are some of the most common types of nurses:



- 1. Registered Nurse (RN): This is the most common type of nurse. RNs have completed a nursing program and have passed the National Council Licensure Examination (NCLEX-RN) to become licensed. They work in hospitals, clinics, and other healthcare settings, and are responsible for providing direct patient care, administering medications, and educating patients and their families about their health.
- **2.** Licensed Practical Nurse (LPN): LPNs have completed a nursing program and have passed the National Council Licensure Examination for Practical Nurses (NCLEX-PN). They work under the supervision of RNs or physicians, and are responsible for providing basic nursing care, administering medications, and monitoring patients' vital signs.
- **3. Nurse Practitioner (NP):** NPs are advanced practice registered nurses (APRNs) who have completed a master's or doctoral degree in nursing and have additional training in a specific area of specialization. They can diagnose and treat illnesses, prescribe medications, and provide primary and specialty care to patients.
- **4.** Certified Nurse Midwife (CNM): CNMs are advanced practice nurses who provide comprehensive care to women during pregnancy, childbirth, and the postpartum period. They also provide reproductive and gynecological care.
- **5.** Certified Registered Nurse Anesthetist (CRNA): CRNAs are advanced practice nurses who specialize in administering anesthesia to patients during surgical or other medical procedures.
- **6. Clinical Nurse Specialist (CNS):** CNSs are advanced practice nurses who specialize in a particular area of patient care, such as pediatrics, geriatrics, or oncology. They provide direct patient care, educate other healthcare professionals, and conduct research.
- 7. Travel Nurse: Travel nurses are RNs who work short-term contracts in different healthcare facilities across the country. They fill temporary staffing needs and may work in hospitals, clinics, or other healthcare settings.
- **8.** Critical Care Nurse: Critical care nurses work in intensive care units (ICUs) and other high-acuity settings, providing specialized care to critically ill patients.
- **9. Emergency Room Nurse**: Emergency room nurses work in hospital emergency departments, providing care to patients with acute illnesses or injuries.
- 10. Operating Room Nurse: Operating room nurses work in surgical settings, assisting surgeons and other healthcare professionals during surgical procedures

# 2. REVIEW OF LITRATURE:

1. Farinaz Havaei, Minjeong Park and Oscar L. Olvera Astivia (2021)- The Mental Health Commission of Canada developed a National Standard in 2013 that lists 13 workplace variables related to employee mental health. In this study, workplace risk factors for BC nurses were evaluated along with the psychometric features of the instrument used to test the 13 workplace elements in the Standard, Guarding Minds at Work (GMW). 3,077 direct care nurses who work in acute care settings participated in a statewide survey study. Internal consistencies on the subscale were acceptable. The initial alphas for the majority



of items were higher than the alpha-if-item-deleted alpha. The correlations between the corrected item totals were all moderate to high. The 13-factor structure demonstrated a good model fit based on absolute fit indices (SRMR 14 0.057 and RMSEA 14 0.054), however relative fit indices (CFI 14 0.827 and TLI 14 0.815) were below the suggested cutoff. Nine out of the 13 GMW issues were deemed serious or substantial workplace concerns by nurses. The results were in line with a wealth of data showing flaws in nurses' working conditions. This was the first study to support the validity and reliability of the GMW in part. The GMW has to be improved, and its psychometric features need to be better understood.

2. Arthur Ho-Hon Leung (2021)- One of the most important components of university safety is lab safety. In this pilot study, 91 laboratory staff members from two universities in Hong Kong responded to a self-administered online questionnaire about their knowledge, behaviour, attitudes, and perceptions regarding laboratory safety. A Chi-square test and t test were used to compare some of the results with an international safety culture survey that was done in 2012, with a 0.05 level of significance. The participating universities, for instance, demonstrated increased utilization of a formal risk assessment method (p 0.001) and more regular safety inspections carried out by the institution's H&S staff and laboratory staff (p 0.001). Less agreement that the laboratory is a safe place to work (p = 0.037) and that the risk of the work is considerable (p = 0.001) were found among the participating universities, among other statistically significant differences. The participants also correctly identified the full name of GHS (83.5%) and frequently used PPE (83.5%), but fewer of them were able to recognize the pictograms for oxidizing, health-related, and irritating GHS hazards (69%, 67%, and 71%, respectively), and fewer still correctly identified the pictogram for checking PPE before use (59.3%). They were keen to learn more about chemical safety (85.7%), were willing to actively engage when there were unsafe conditions or behavior's, and also learnt about fatal laboratory mishaps from the institution's H&S professionals (82.4%). Nonetheless, a few possible dangers were noted when operating alone, before having training, and using a non-formal risk assessment tool. This study's findings support the idea that, while the two participating universities' lab safety status satisfies worldwide requirements, there is still room for improvement in terms of safety compliance and safety culture. Lina Heier, Nikoloz Gambashidze, Judith Hammerschmidt, Donia Riouchi, Matthias Weigl, Andrew Neal, Andrea Icks, Peter Brossart, Franziska Geiser and Nicole Ernstmann (2021)-One of the biggest challenges in the healthcare industry is ensuring the safety of patients. Another is lowering workplace accidents. There aren't many tools for measuring workplace safety and safety performance. The purpose of this study was to develop and validate a German translation of the modified occupational health and safety instrument for evaluating healthcare professionals' safety performance. This exploratory cross-sectional survey included 168 healthcare practitioners in total. 16 components total, covering four dimensions of safety performance, make up the device. For each individual item as well as

the four dimensions of the instrument, mean values and standard deviations were determined. We examined the instrument's dimensionality through exploratory factor analysis, assessed internal consistency and construct validity, and used confirmatory factor analysis to see how well our data fit the original model. The bulk of the sample was female (71.9%) and under 30 (52.5%), with 73.8% of the participants being nurses or nurses-intraining. For all four dimensions, Cronbach's alpha was >0.7. According to the original theoretical model, each item was put onto each factor. Normed 2/df = 1.43 (2.5), root mean square error of approximation = 0.06 (0.07), goodness of fit index = 0.90 (>0.90), comparative fit index = 0.95 (0.90), and Tucker-Lewis index = 0.93 (>0.90) were all indicative of good model fit in the confirmatory factor analysis. The German version of the tool allowed measurement of healthcare professionals' safety knowledge, motivation, compliance, and engagement. It also proved acceptable qualities and fit well with the original theoretical model.

- 3. Elena Larochea, Sylvain L'Espérancea, Elaine Mosconi (2020)- In this systematic study, the viability and efficacy of social networking or enterprise social networking for promoting healthy lifestyles or for occupational health and safety (OHS) prevention are assessed. Literature searches were carried out in several indexed databases to find studies whose main objective was the promotion of healthy lifestyles or the prevention of occupational injuries using social media or enterprise social networks working alone or in conjunction with other promotional or preventive interventions. There were ten studies total. Yet, some scientists have recommended further study of this technology to evaluate the cumulative effects of social media on the promotion of healthy lifestyle practises in businesses. The findings suggest that social media could be considered as a possible communication channel for this use. Similar findings were reached by studies that examined the use of social media for OHS prevention. Using social media within a business to promote a healthy lifestyle or OHS among its employees can represent an innovative and promising means of intervention, according to the existing studies. It is significant to note that, at this time, it is difficult to draw firm conclusions on the efficacy and use of the available studies due to its scarcity and inadequate methodological standards.
- 4. Roveny, Rokiah Kusumapradja, CSP Wekadigunawan (2020)- The biggest issue facing the worldwide public health system is patient safety, according to experts. Planning for safe care begins in an environment that promotes patient safety. The X Hospital has also made the problem of the patient safety climate a primary focus. This study intends to provide empirical evidence of the relationship between cooperation and patient safety climate, occupational health and safety management systems, and the work environment. In this study, we processed route analysis using the cross-sectional approach using a total of 49 samples from the X Hospital. A questionnaire form is used to collect the data. The findings indicate that teamwork, the work environment, and the occupational health and safety management system all positively impacted patient safety climate, occupational health and safety management system positively impacted work environment, and team

- analysis of occupational health and safety management system positively impacted patient safety climate. The occupational health and safety management system and teamwork showed a favorable link in the case of the mediating influence of the work environment. The patient safety climate will be improved by improved occupational health and safety management systems and by teamwork that is facilitated by the work environment.
- 5. Gail Oneal, Janessa M. Graves, Tullamora Diede, Julie Postma, Celestina Barbosa-Leiker (2019)- For newly licenced nurses who may be at risk for burnout and leaving their positions, the transition into independent professional practise may be a challenging and demanding process. The well-being of new nurses at work may have an effect on their personal lives as well. This study used thematic analysis within the context of whole worker health to explore aspects of newly licenced nurses' overall work, safety, and health that should be addressed in workplace settings to improve wellbeing and reduce burnout and attrition. Finding and comprehending the pertinent issues that result in safety and health concerns at work and affect employees' wellbeing both at work and at home is the fundamental goal of whole worker health. Health, Work Environment, and Learning to Be included as three important topics in the overarching notion of Balance between Work and Life (a nurse). During the transition from student to professional nurse, these themes and their subthemes characterised the challenges participants faced in juggling the intricate interplay of job conditions and social life changes. Participants noted changes in family and friend connections, new physical health issues, mental health difficulties, physical violence, and a lack of support systems at work. Yet, they also acquired defence mechanisms via fresh relationships with coworkers. Our results demonstrated that new nurses are susceptible to a variety of factors at work and at home that might negatively impact wellbeing and increase attrition and burnout. Interventions at work that emphasise health promotion, group support, and safety risk prevention through occupational nurse management are examples of implications.
- 6. Manuel Romero Saldana, Antonio Gabriel Moreno Pimentel, Araceli Santos Posada (2019)- Sociocultural and technological advancements have shaped the evolution of work, its processes, and conditions from 1953, with the introduction of the Company Occupational Health Technical Assistant Specialist, to 2005, with the recognition of the specialty of Occupational Health Nursing. These advancements have also defined the occupational risks to which workers are exposed, as well as how to organize prevention, safety, and occupational health. Workplace Health In order to achieve the highest level of physical, mental, and social well-being for the working population, nursing is defined as a nursing specialty that addresses the health status of individuals in their relationship with the workplace, taking into account the individual characteristics of the worker, the job, and the socio-labor environment in which they develop. Together with occupational medicine, occupational health nursing is the basic health unit and performs its fundamental duties by monitoring the health of the workforce. This unit is then a part of both public and private organizations' prevention services. There are currently only about 9000 occupational



health nursing specialists in Spain, which is insufficient to ensure the prevention of workplace accidents and illnesses, the early detection of occupational pathology, the promotion of health through changing lifestyles, and the enhancement of the well-being of the working population. In order to integrate into interdisciplinary projects in occupational health that offer solutions to growingly complex health and safety issues at work, occupational health nursing relies on competencies as fundamental as teaching, management, and research. This is because occupational health nursing is aware of the challenges it will need to face in the coming years.

- 7. Ülfiye Çelikkalp, Filiz Dilek (2019)-In this hospital-based study, we sought to ascertain Turkish nurses' perspectives of occupational accidents and the causes of occupational accidents. The Epworth Sleepiness Scale, the Workload Scale, and a Study Questionnaire Form with information on the nurses' employment characteristics, sociodemographic factors, and the occupational accidents they experienced were all used in the study. The study included 108 nurses (90 female and 18 male; mean age, 26.425.5 years). 68.5% of nurses have experienced an occupational accident at least once. The majority of participants had reported having had work-related accidents, and about half of them had rated their risk as high. The majority of the nurses worked shifts and overtime. The Epworth Sleepiness Scale and Workload Scale had respective mean total scores of 9.093.33 and 36.946.42 points. Working in shifts, working overtime, and Epworth Sleepiness Scale scores all had a statistically significant impact on occupational accident rates (p 0.05). It was determined that occupational accident rates among nurses were quite high and that difficult working conditions contributed to occupational accidents.
- 8. Joan Almost, Louise Caicco Tett, Elizabeth VanDenKerkhof, Genevie've Pare (2019)—
  To determine if it would be feasible to execute treatments that were based on six leading indicators and to assess how well these interventions fared in terms of improving employee perceptions of the health and safety atmosphere in their workplace. In two hospitals, a quasi-experimental longitudinal design was applied. A tool called the Leading Indicator Assessment Tool was used to evaluate occupational health and safety management systems (OHSMS). Specifically designed treatments were created, tested in a pilot study, and evaluated to close the gaps found in the evaluation. Data were gathered before and after the interventions. Three leading indicators—communication, employee engagement, and senior management commitment—were the targets of interventions. The use of leading indicators to direct proactive initiatives was generally endorsed by both websites. Only at one site did employees' evaluations of the workplace's health and safety climate improve. The findings imply that it is possible to encourage a safety culture in healthcare by using leading indicators to evaluate an organization's current OHSMS, identify areas for improvement, and apply personalized interventions.
- 9. **Raed Eldejany (2018)-** Workplace accidents have a significant influence on the physical, mental, and social well-being of employees, raise production costs, and reduce the competitiveness of businesses. In Australia, the construction sector is made up of 96%



- small businesses, and it has the fifth-highest percentage of major injury incidents among all sectors. Nonetheless, according to the Australian Bureau of Statistics' most recent data, safety performance in the construction sector has significantly improved since earlier in the decade. This descriptive pilot study aims to confirm the role played by small businesses in this most recent development. Using a 34-item self-completion survey, ten owner managers are asked about their commitment to work health and safety. The results demonstrate that small business owners in the construction sector have a favourable attitude towards workplace health and safety. The results of this study need to be confirmed by additional research using bigger samples because it only provides a picture of the reality of small construction businesses' commitment to work health and safety in Australia.
- 10. Jodi Oakman, Timothy Bartram (2017)- The goal of this study is to determine if occupational health and safety (OHS) management practices used to treat musculoskeletal disorders (MSDs) in the elderly care industry adhere to the most recent research-based recommendations for the best ways to lower the prevalence of these conditions. 58 managers and supervisors in the elderly care sector from four Australian companies were interviewed in total. For each organisation, the policies and practices pertaining to MSDs were reviewed. The current data, which suggests a complicated a etiology linked to a variety of physical and psychosocial workplace conditions, is not reflected in policies and procedures for addressing MSDs. Psychosocial aspects were not taken into account in the policies and procedures examined, despite the fact that there is ample evidence to support their link to the development of MSDs. According to the results of the interviews, the leadership and different aspects of HRM were in good working order, but there was fragmentation because of how difficult the elderly care sector is. Policies and procedures must provide coverage of psychological and physical workplace elements in order to address the large burden of MSDs in the elderly care sector. The efficient management of MSDs may be greatly aided by the development of systematic and integrated OHS management at the workplace level. Insights into the previously uncharted field of MSD risk management and the function of management techniques like HRM in the elderly care industry are provided by this study.
- 11. Karen J. Whitt, Lacey Eden, Katreena Collette Merrill, Mckenna Hughes (2017)-Inadequate electronic health record configuration and utilization have been related in the past to unfavorable patient outcomes. The US Office of the National Coordinator for Health Information Technology created the Safety and Assurance Factors for EHR Resilience guides to assess electronic health records for usefulness and security features in response to this issue. Nursing students are exposed to a range of clinical practice settings and electronic health records throughout their study. This descriptive study assessed how 108 undergraduate and 51 graduate nursing students rated the electronic health record's features and safe practices, as well as what they discovered after using the checklists for computerized provider order entry and clinician communication. 70% of graduate students and more than 80% of undergraduate students said they had previously encountered user

issues with electronic health records. About 50% of the students believed that electronic medical records are responsible for poor patient outcomes. Many of the elements evaluated, according to the students, were not fully implemented in their electronic health records. These results show areas that can be improved in electronic health records to maximize patient safety. Most students said that using the Safety and Assurance Factors for EHR Resilience guides improved their comprehension of the features of electronic health records.

- 12. Rima R. Habib, Ghandour Blanche, Fares Souha, Fadi El-Jardali & Iman Nuwayhid (2016)- The improvement of occupational health and safety (OHS) performance may be encouraged by hospital accreditation. This study evaluates the connection between private Lebanese hospitals' accreditation status and adherence to OHS accreditation requirements. In order to determine the accreditation status and specific indicators associated to each of the 9 OHS codes in the Lebanese accreditation handbook, a survey was given to 68 private hospitals in Lebanon. Chi-square, Fisher's exact test, and independent sample t-tests were used to compare the OHS requirements between hospitals that were accredited and those that were not. 56 percent of the participating private hospitals had accreditation. Compared to non-accredited hospitals, accredited hospitals had statistically better OHS performance, according to the guidelines in the accreditation handbook. Nonetheless, there were variations in how the participating hospitals performed on certain OHS parameters. To protect the health of employees, the discrepancies in OHS performance point to the necessity for more stringent OHS standards in the national certification process. Tying service reimbursement to OHS compliance and connecting OHS standards with national labour laws are two strategies to strengthen OHS performance.
- 13. Muhammad W. Darawad, Mahmoud Al-Hussami, Ali M. Saleh (2015)- A common occurrence that negatively impacts nurses' job happiness and productivity is violence against nurses in emergency departments (EDs). There is a dearth of literature on Jordan's prevalence and causes of violence against nurses. The current study examined the reasons of violence from the viewpoints of Jordanian nurses who have experienced it in emergency departments. 174 Jordanian ED nurses provided information for this descriptive study. Violence was reportedly experienced by 91.4% of participants (95.3% verbal, 23.3% physical). Crowding and workload were cited as the most frequent reasons of violence in emergency departments (75.9%), while the care of patients with dementia or Alzheimer's disease was cited as the least frequent cause (35.6%). Jordanian EDs frequently experience violence, which has a number of negative behavioural and health effects. By implementing proper safety measures, helpful administrative procedures, and honest efforts to address the root causes of this phenomena, health care administrators have a responsibility to safeguard nurses against violent situations.
- 14. **Daniel Terry, Quynh Lê, Uyen Nguyen, Ha Hoang (2015)-** The study's goal was to examine the types of occupational health and safety problems that rural community nurses deal with and the effects these problems have on providing care to rural patients. The study



used a phenomenological technique as the foundation for a narrative investigation 13 of the 16 willing healthcare services reached out to community nursing professionals who were permanently hired and only performed their duties in rural areas. Interviews were conducted with all community nurses who expressed interest in taking part. Semistructured interviews with 15 community nurses in rural and remote communities were used to gather data. Data from interviews were analyzed using thematic analysis. Since they were created and centered on addressing the needs of specific communities, community nursing services' roles, functions, and organizational structures differed significantly from location to location. However, a number of issues with workplace health and safety were discovered, many of which were related to the organizational, physical, and geographic context in which community nurses operate. Driving lengthy distances between clients' homes and offices presented issues for workplace health and safety in these settings since it forced workers to spend a lot of time alone and ineffectively communicate. Other problems included dealing with animals in the workplace, vertical and horizontal aggression, workload, burnout, and work-related stress. These problems were in addition to dealing with, managing, and devising solutions to deal with poor patient and carer behaviour. To fulfil the demands of rural community health consumers, several nurses have successful outcomes. To make sure that service goals were accomplished, managers were essential. Despite the favorable results, many procedures were deemed dangerous by community nurses. More training and capacity building were found to be necessary to address the needs of every employee.

- 15. **Debra M. Wolf, Bonnie B. Anton, John Wenskovitch (2014)** All healthcare organizations and nursing associations need to conduct further research on and give this issue serious consideration because nurses' use of the Internet and social media has come to light as a serious concern. The American Nurses Association (2011) produced six social networking principles that provided advice and direction for nurses in an effort to fulfil this need. In addition, a nurse's guide to using social media was issued in 2011 by the National Council of State Boards of Nursing. It's very typical for nurses to use social media and the Internet for both personal and professional purposes. In the virtual world, nurses should avoid mixing their personal and professional lives. The usage of social media by nurses for personal and professional purposes was examined in this article, which also gives suggestions geared specifically towards occupational health nurses. The pilot survey was authorized by the Institutional Review Board.
- 16. Alyson N. Lorenz, Tippawan Prapamontol, Warangkana Narksen, Niphan Srinual, Dana B. Barr and Anne M. Riederer (2012)- Due to the agricultural vocations of their mothers, an estimated 200,000 babies born in Thailand every year are at risk of prenatal exposure to pesticides and the resulting neurodevelopmental effects. Children born to non-agricultural workers may also be at risk of pesticide exposure from other sources, such as usage of pesticides in the household, food, and other environmental factors. In Thailand, dangerous practices and negative attitudes towards pesticides have been connected to

pesticide exposure. There is, however, little data on the attitudes, habits, and knowledge of pregnant women in Thailand or worldwide regarding pesticides. These data must be collected in order to recognize populations that may be at risk, comprehend the factors related to prenatal pesticide exposure, and ultimately safeguard expectant mothers and their unborn children. We utilized multivariable logistic regression to assess correlations between pesticide-related knowledge, pregnancy trimester, and pesticide usage behaviour among 76 pregnant women in northern Thailand. In this pilot investigation, there was no association between risky practices at work and poorer knowledge scores or being in the first trimester of pregnancy (p > 0.1). Before getting pregnant, women who worked in agriculture, used pesticides, or had a prior child were considerably (p 0.05) more likely to engage in dangerous activities in the house. Increasing pregnant women's knowledge of pesticides may help to encourage safe practises and lower prenatal exposure, we hypothesise. When targeted at agricultural workers and other subpopulations at risk of pesticide exposure, knowledge-based interventions may be most successful when implemented early in pregnancy.

- 17. Stavros Drakopoulos, Athina Economou, Katerina Grimani (2012)-Given that workrelated diseases and accidents cause significant economic and social losses, policymakers and researchers in European nations are becoming more and more interested in the topic of occupational safety and health (OSH). In light of this, the purpose of this study is to provide an overview of Greek policy as it relates to OSH issues, as well as the state of empirical research in Greece. In order to support future research in the OSH sector in Greece, the report also aims to pinpoint knowledge gaps and methodological flaws in the existing literature. The authors did a thorough evaluation of the literature that included many journals, studies, and institutional databases. The findings indicate that empirical modern research in Greece is fairly insufficient, primarily due to the lack of econometric techniques to support the conclusions. Greek records that are readily available show that while the frequency of workplace accidents has reduced over time, their severity appears to be rising. Men are more vulnerable to illnesses, accidents, and unfavourable working circumstances. One facet of occupational issues that has been the focus of numerous Greek studies is stress at work. Although the legal framework is sufficiently sufficient, preventative tactics and enforcement of the current safety requirements are required. Additionally, there is a substantial research void in Greece. In order to better understand the causes of injuries and how they affect workers' engagement, more systematic study is required.
- 18. Mary Val Palumbo, Vicki Mclaughlin, Barbara Mcintosh Betty Rambur(2011)- The general and emotional well-being of practical nurses (PNs), as well as the concern their employers showed for their health and safety, were appraised. For the purpose of examining workforce concerns concerning these crucial elder care professionals, these components were evaluated in relation to work setting and intention to leave. The Minimum Data Set for nurse workforce supply as well as questions from the Health and Retirement Survey were incorporated in a relicensure survey that was addressed to all PNs

in one rural state. The t-test, chi-square, and Kruskal-Wallis nonparametric ANOVA tests were used to evaluate the data. 71% of the state's employed PNs replied to the survey (813 did, totaling 269) and 34% of them said they worked in nursing homes. Overall, self-rated general health was not significantly correlated with age or job role (p=0.14 and p=0.12). Men reported worsening emotional (p=0.004) and general health (p=0.09). Compared to PNs employed in other contexts, nursing home PNs gave themselves worse ratings for both general and emotional health (p 0.001). Compared to PNs working in other work environments, 28% of those working in nursing homes said they were likely to leave their position within a year (p=0.003). PNs who gave their employer's safety policies higher ratings were less likely to quit. Knowing PNs' perspectives of their general and emotional health as well as of workplace safety and health initiatives might help interventions to lower turnover.

19. Mary Val Palumbo, Betty Rambur, PhD, RN, Barbara McIntosh, PhD, SPHR, and Shelly Naud (2010)- This survey looked at nurses from throughout the state's assessments of their physical and mental well-being as well as how they rated workplace health and safety measures from their companies. Afterwards, predictors of intention to leave one's job were modelled using these characteristics and demographic information. All licensed nurses in one state received a survey in the mail. (n = 3,955) 53 % of respondents gave a response. The results showed considerable disparities in how people of different ages perceived their emotional health, with younger nurses having less favorable evaluations of their emotional health. Age, environment, and job role all affected how employees perceived their employers' safety and health programmers. This exploratory study reveals a link between the employer's health and safety policies, the emotional well-being of the nurses, and their intention to leave. Details regarding the implications for occupational health nurses.

# 3. RESEARCH METHODOLOGY:

A search for knowledge is referred to as research in everyday speech. It is often referred as a scientific and methodical search for relevant data on a certain subject. Data research is a form of scholarly inquiry. Research is defined as "A diligent investigation or inquiry especially through search for fresh fact in any sort of knowledge" in the Advance Learner's Wordbook of Current English.

### 3.1. THE OBJECTIVES OF THIS STUDY:

- To study the precautions of Occupational health and safety OHS workers of SRM Hospital.
- ➤ To analysis the Working Environment, Knowledge of OHS, Perception of OHS by Educational at SRM Hospital.
- > To analysis the Working Environment, Attitude of OHS, Practices of OHS by Experience SRM Hospital.
- > To construct a model for participation Occupational health and safety OHS in SRM Hospital.



# 3.2. RESEARCH MODEL:

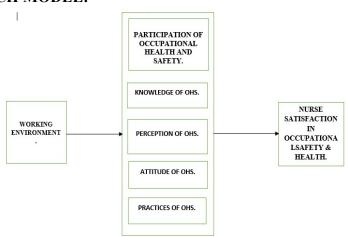


FIG 1: A MODEL OF EMPLOYEE OCCUPATIONAL HEALTH AND SAFETY(EOHS).

#### 3.3. RESEARCH DESIGN:

It's an descriptive study. The purpose of descriptive surveys is to collect the details and factual information that describes an existing phenomenon. Survey through structured questionnaire has been made in selected of SRM hospital at Kattankullattur..

# 3.4. SELECTION OF SAMPLES:

Total 70 respondents were selected from nurses in SRM hospital at the kattankullattur campus in chengalppatt districts.

#### 3.4.1. **SOURCES OF DATA:**

In order to achieve the objectives of present study, relevant primary and secondary data was used.

# a. PRIMARY DATA:

Primary data was collected from nurses with the help of structured questionnaire by personal visit and conversation.

# b. SECONDARY DATA:

Secondary Data was collected from Books, Magazines, Journals News Paper, Websites etc. It was useful sources to designs scientific instrument (questionnaire) for Primary data.

# 3.5. SAMPLING TECHNIQUE:

A statistical Purposive sampling technique was used to select 70 nurses in SRM hospital at the kattankullattur campus in chengalppatt districts. Researcher had also got information for the questionnaire for hospital in SRM hospital at the kattankullattur campus in chengalppatt districts. at the Tamil Nadu. Both primary data and secondary data types were collected for the study. The structural questionnaire has been used for the purpose. The use of secondary data from the



published sources like annual reports and website of hospital at the Tamil Nadu, has been used for gathering the general information of the selected of nurses in SRM hospitals at the kattankullattur campus in chengalppatt districts. Three sections make up the final survey. The demographic questions in the first section pertain to area, gender, family kinds, marital status, age, educational background, income, experience of nurses working at SRM hospitals on the kattankullattur campus in the chengalppatt districts, and overall career experience. The second section contains advertising techniques as well as six factors of questions used to select the nurses for SRM hospitals at the kattankullattur campus in chengalppatt districts. at the Tamil Nadu. The second section contains a 5-point statement that is based on the traits and ranges from strongly agree (5 points) to strongly disagree (1 point).

# **3.6. TOOLS USED FOR ANALYSIS:**

# **3.6.1. ANOVA Test.**

#### **HYPOTHESIS:**

**Null hypothesis H0-** There is no significant difference between the Working Environment, Knowledge of OHS, Perception of OHS amongst Nurses.

**Alternate hypothesis H1-**There is significant difference between the Working Environment, Knowledge of OHS, Perception of OHS amongst Nurses.

Table 1: One Way ANOVA Working Environment, Knowledge of OHS, Perception of OHS by Educational.

ANOVA										
		Sum of	df	Mean	F	Si				
		Squares		Square		g.				
Knowledge	Between	.176	3	.059	.12	.94				
ofOccupati	Groups	.170		.039	8	3				
onalHealth	Within	30.293	66	.459						
andsafetyA	Groups									
vg	Total	30.469	69							
Perception	Between	.903	3	.301	.67	.56				
ofOccupati	Groups				7	9				
onalHealth	Within	29.340	66	.445						
andsafetyA	Groups									
vg	Total	30.243	69							
	Between	.377	3	.126	.32	.80				
WorkingEn	Groups				7	6				
vironment	Within	25.332	66	.384						
Avg	Groups									
	Total	25.708	69							

**Inference:** The alternative hypothesis is accepted because the significance value is more than 0.05 and is 0.943 according to the SPSS data. As a result, there are no significant differences across



educational backgrounds in terms of Working Environment, Knowledge of OHS, Perception of OHS.

# **HYPOTHESIS:**

**Null hypothesis H0-** There is no significant difference between the Working Environment, Attitude of OHS, Practices of OHS amongst Nurses.

**Alternate hypothesis H1-**There is significant difference between the Working Environment, Attitude of OHS, Practices of OHSamongst Nurses.

Table 2: One Way ANOVA Working Environment, Attitude of OHS, Practices of OHS by Experience.

ANOVA										
		Sum of	Df	Mean	F	Si				
		Squares		Square		g.				
WorkingEn vironment Avg	Between Groups	2.020	3	.673	1.8 76	.14				
	Within Groups	23.688	66	.359						
	Total	25.708	69							
Attitudeof Occupation alHealthan dsafetyAvg	Between Groups	2.843	3	.948	2.4 02	.07 6				
	Within Groups	26.048	66	.395						
	Total	28.891	69							
Practiceof Occupation alHealthan dsafetyAvg	Between Groups	1.685	3	.562	.99 4	.40 1				
	Within Groups	37.278	66	.565						
	Total	38.963	69							

**Inference:** The alternative hypothesis is accepted because the significance value is more than 0.05 and is 0.401 according to the SPSS data. As a result, there are no significant differences across Experience backgrounds in terms of Working Environment, Attitude of OHS, Practices of OHS.

# 4. FINDINGS:

- **1. Physical injuries**: Nurses are at risk of physical injuries such as needle stick injuries, back injuries from lifting patients, and slips, trips, and falls.
- **2. Workplace violence**: Nurses are at high risk of workplace violence, including verbal abuse, physical assault, and sexual harassment.
- **3. Burnout**: Nurses are at risk of burnout due to high workload, long working hours, and emotional stress.



- **4. Mental health**: Nurses may experience mental health issues such as depression, anxiety, and post-traumatic stress disorder due to workplace stressors.
- **5. Infectious diseases**: Nurses are at risk of contracting infectious diseases such as tuberculosis, influenza, and hepatitis B and C.
- **6.** Chemical exposure: Nurses may be exposed to hazardous chemicals such as chemotherapy drugs, cleaning agents, and anesthetic gases, which can have adverse health effects.

#### **5. SUGGESTION:**

- 1. Provide adequate training and education on occupational health and safety: Nurses should receive comprehensive training on workplace hazards, infection control, safe patient handling, and violence prevention.
- **2. Implement workplace violence prevention programs:** Workplace violence prevention programs can include training on conflict resolution, de-escalation techniques, and policies and procedures for reporting incidents.
- **3. Promote ergonomic and safe patient handling practices:** Employers should provide ergonomic equipment such as lift equipment and ensure that safe patient handling techniques are taught and implemented.
- **4. Offer mental health support**: Employers should provide mental health resources such as counseling services, stress management training, and regular check-ins with supervisors.
- **5. Provide adequate personal protective equipment (PPE):** Employers should ensure that nurses have access to appropriate PPE to protect against infectious diseases and hazardous chemicals.
- **6. Encourage open communication:** Employers should encourage open communication between nurses and management to identify and address any workplace hazards or concerns.
- 7. Regularly evaluate and update occupational health and safety policies: Employers should regularly evaluate and update their occupational health and safety policies to ensure that they are effective and up-to-date with current regulations and best practices.

# **6. FUTURE AND CONCLUSION:**

The participation of occupational health and safety among nurses will continue to be a critical issue in the future. As the nursing profession continues to grow and evolve, it is essential to prioritize the health and safety of nurses in the workplace.

In the future, we can expect to see continued efforts to improve occupational health and safety among nurses. This may include the development of new technologies and equipment to support safe patient handling, the implementation of new policies and procedures to prevent workplace violence and the development of mental health support programs tailored specifically for nurses.

It is important to recognize the significant impact that occupational health and safety has on nurses and the healthcare system as a whole. By prioritizing the health and safety of nurses, we



can improve patient care and outcomes, reduce healthcare costs associated with injuries and illnesses, and ultimately, support a healthier and more productive workforce.

In conclusion, the participation of occupational health and safety among nurses is essential to ensure that nurses can perform their duties safely and effectively. We must continue to prioritize this issue and work together to develop effective solutions that protect the health and wellbeing of nurses and ultimately, improve patient care.

# **REFERENCE:**

- 1. Havaei, F., Park, M., & Astivia, O. L. O. (2021). The National Standard of psychological health and safety in the workplace: a psychometric and descriptive study of the nursing workforce in British Columbia hospitals. *Canadian Journal of Nursing Research*, 53(4), 405-416.
- 2. Palumbo, M. V., Rambur, B., McIntosh, B., &Naud, S. (2010). Registered nurses' perceptions of health and safety related to their intention to leave. *AAOHN Journal*, *58*(3), 95-103.
- 3. Whitt, K. J., Eden, L., Merrill, K. C., & Hughes, M. (2017). Nursing student experiences regarding safe use of electronic health records: a pilot study of the Safety and Assurance Factors for EHR Resilience guides. *CIN: Computers, Informatics, Nursing*, 35(1), 45-53.
- 4. Loeppke, R., Boldrighini, J., Bowe, J., Braun, B., Eggins, E., Eisenberg, B. S., ... & Yarbrough, M. (2017). Interaction of Health Care Worker Health and Safety and Patient Health and Safety in the US Health Care System. *Journal of occupational and environmental medicine*, 59(8), 803-813.
- 5. Eldejany, R. (2018). Work Health and Safety in Small Business-A Pilot Study in the Australian Construction Industry. *International Journal of Business Administration*, 9(4), 103-109
- 6. Wolf, D. M., Anton, B. B., & Wenskovitch, J. (2014). Promoting health and safety virtually: Key recommendations for occupational health nurses. *Workplace Health & Safety*, 62(7), 302-306.
- 7. Arumugam, T., Arun, R., Anitha, R., Swerna, P. L., Aruna, R., & Kadiresan, V. (2024). Advancing and Methodizing Artificial Intelligence (AI) and Socially Responsible Efforts in Real Estate Marketing. In S. Singh, S. Rajest, S. Hadoussa, A. Obaid, & R. Regin (Eds.), Data-Driven Intelligent Business Sustainability (pp. 48-59). IGI Global. <a href="https://doi.org/10.4018/979-8-3693-0049-7.ch004">https://doi.org/10.4018/979-8-3693-0049-7.ch004</a>
- 8. Arun, Bernard Edward Swamidoss, Venkatesan (2023), Impact of Hospitality Services on Tourism Industry in Coimbatore District, Journal of Namibian Studies History Politics Culture, Volume 33, Special Issue 3, Pp. 2381-2393.
- 9. Vijai, C., Bhuvaneswari, L., Sathyakala, S., Dhinakaran, D. P., Arun, R., & Lakshmi, M. R. (2023). The Effect of Fintech on Customer Satisfaction Level. Journal of Survey in Fisheries Sciences, 10(3S),6628-6634.



- 10. Arun R, and Bhuvaneswari R (2019). Buying behavior of meet's consumption relates to food safety from north and south part of the Coimbatore City. International Journal of Recent Technology and Engineering, 7, 429-433. https://www.ijrte.org/wp-content/uploads/papers/v7i5s/ES2177017519.pdf
- 11. Chandramouli Shivaratri, Prakash, Arun, Krishna Mayi, Kavitha, Sivaperumal (2023), Clothing Products Purchases through Social Media Advertisements and the Problems Involved, Remittances Review, Vol. 8, Issue 4, Pp. 3260-3268.
- 12. Akkur, S. A., R, R., S, S., P, D. K., Miryala, R. K., & Arun, R. (2023). Leadership Qualities Among Women Leaders in Educational Institutions at Bangalore City. International Journal of Professional Business Review, 8(9), e03772. https://doi.org/10.26668/businessreview/2023.v8i9.3772
- 13. P, S., Prakash, K. C., Arun, R., C, N., Kousalya, M., & Sivaperumal, K. (2023). Green HRM Practices and the Factors Forcing it: A Study on Health Care Entities in Chennai. International Journal of Professional Business Review, 8(9), e03773.
- 14. K. C. Prakash, R. Arun, Ram Chandra Kalluri, Souvik Banerjee, M R Vanithamani, Biswo Ranjan Mishra(2023), Consumer Confidence Index and Economic Growth- Indian Context after the Covid-19, European Economic Letters, Pp 746-754, DOI: https://doi.org/10.52783/eel.v13i5.824
- 15. Arumugam, T., Arun, R., Natarajan, S., Thoti, K. K., Shanthi, P., & Kommuri, U. K. (2024). Unlocking the Power of Artificial Intelligence and Machine Learning in Transforming Marketing as We Know It. In S. Singh, S. Rajest, S. Hadoussa, A. Obaid, & R. Regin (Eds.), Data-Driven Intelligent Business Sustainability (pp. 60-74). IGI Global. https://doi.org/10.4018/979-8-3693-0049-7.ch005
- 16. Pushkarprabhat D Saxena, Krishna Mayi, R. Arun, S. Santhosh Kumar, Biswo Ranjan Mishra, K. B. Praveen (2023), Impact of Artificial Intelligence on Healthcare Informatics: Opportunities and Challenges, journal of Informatics Education and Research,3(2), Pp. 2309-2316, https://doi.org/10.52783/jier.v3i2.384
- 17. Darawad, M. W., Al-Hussami, M., Saleh, A. M., Mustafa, W. M., & Odeh, H. (2015). Violence against nurses in emergency departments in Jordan: Nurses' perspective. *Workplace health & safety*, 63(1), 9-17.
- 18. Lorenz, A. N., Prapamontol, T., Narksen, W., Srinual, N., Barr, D. B., &Riederer, A. M. (2012). Pilot study of pesticide knowledge, attitudes, and practices among pregnant women in northern Thailand. *International journal of environmental research and public health*, 9(9), 3365-3383.
- 19. R. Arun, M. Umamaheswari, A. Monica, K. Sivaperumal, Sundarapandiyan Natarajan and R. Mythily, "Effectiveness Performance of Bank Credit on the Event Management Firms in Tamilnadu State", In: Satyasai Jagannath Nanda and Rajendra Prasad Yadav (eds), Data Science and Intelligent Computing Techniques, SCRS, India, 2023, pp. 463-470. https://doi.org/10.56155/978-81-955020-2-8-42



- 20. Singh, B., Dhinakaran, D. P., Vijai, C., Shajahan, U. S., Arun, R., & Lakshmi, M. R. (2023). Artificial Intelligence in Agriculture. Journal of Survey in Fisheries Sciences, 10(3S), 6601-6611.
- 21. Mythili, Udhayakumar, Umamaheswari, Arun (2023) Factors Determining Mutual Fund Investments in Coimbatore City, European Chemical Bulleting, 12(special issue 6), 4719–4727.
- 22. Arun, R. "A Study on the Performance of Major Spices in India." Recent Trends in Arts, Science, Engineering and Technology (2018): 149.
- 23. K. Rani, Dr. J.Udhayakumar, Dr. M.Umamaheswari, Dr.R.Arun,(2023) "Factors Determining The Purchases of Clothing Products Through Social Media Advertisements in Coimbatore City", European Chemical Bulleting,12(special issue 6), 4728–4737.
- 24. Edson Nirmal Christopher, Sivakumar, Arun ,Umamaheswari (2023) Iiimmunoinformatic Study for a Peptide Based Vaccine Against Rabies Lyssavirus Rabv Strain Pv, European Chemical Bulleting, 12(special issue 9), 631–640.
- 25. Arun (2019), "Sustainable Green Hotels -Awareness for Travelers", International Journal of Emerging Technologies and Innovative Research ISSN:2349-5162, Vol.6, Issue 4, page no. pp343-347,http://doi.one/10.1729/Journal.20408
- 26. Habib, R. R., Blanche, G., Souha, F., El-Jardali, F., &Nuwayhid, I. (2016). Occupational health and safety in hospitals accreditation system: the case of Lebanon. *International Journal of Occupational and Environmental Health*, 22(3), 201-208.
- 27. Baylina, P., Barros, C., Fonte, C., Alves, S., & Rocha, Á. (2018). Healthcare workers: Occupational health promotion and patient safety. *Journal of medical systems*, 42, 1-8.
- 28. Leung, A. H. H. (2021). Laboratory safety awareness, practice, attitude, and perception of tertiary laboratory workers in Hong Kong: a pilot study. *ACS Chemical Health & Safety*, 28(4), 250-259.
- 29. Terry, D., Lê, Q., Nguyen, U., & Hoang, H. (2015). Workplace health and safety issues among community nurses: a study regarding the impact on providing care to rural consumers. *BMJ open*, *5*(8), e008306.
- 30. Laroche, E., L'Espérance, S., & Mosconi, E. (2020). Use of social media platforms for promoting healthy employee lifestyles and occupational health and safety prevention: A systematic review. *Safety science*, *131*, 104931.
- 31. Groenewold, M. R., Sarmiento, R. F., Vanoli, K., Raudabaugh, W., Nowlin, S., & Gomaa, A. (2018). Workplace violence injury in 106 US hospitals participating in the Occupational Health Safety Network (OHSN), 2012-2015. *American journal of industrial medicine*, 61(2), 157-166.
- 32. Drakopoulos, S., Economou, A., & Grimani, K. (2012). A survey of safety and health at work in Greece. *International Journal of Workplace Health Management*, 5(1), 56-70.
- 33. Palumbo, M. V., McLaughlin, V., McIntosh, B., & Rambur, B. (2011). PRACTICAL NURSES'HEALTH AND SAFETY IN NURSING HOMES. *Journal of health and human services administration*, 271-301.



- 34. Shamsudin, N. M., Mahmood, N. H. N., Rahim, A. R. A., Mohamad, S. F., & Masrom, M. (2018). Virtual reality training approach for occupational safety and health: a pilot study. *Advanced Science Letters*, 24(4), 2447-2450.
- 35. De Castro, A. B., Cabrera, S. L., Gee, G. C., Fujishiro, K., & Tagalog, E. A. (2009). Occupational health and safety issues among nurses in the Philippines. *Aaohn Journal*, *57*(4), 149-157.

