

Effectiveness of Implementing Green Management Program on Nursing Staff' Knowledge, Attitudes and Green Management Practices towards Occupational Safety

Eman Ismail Ibrahim Elksas (1), Dr. Amal S. Abu Almakarem (2), Manal Abd Elsalam Amin (3), Asmaa Mohamed Ahmed Maiz (4)

1 Lecturer of Nursing Administration, Faculty of Nursing, Damanhour University

2 Department of Basic Medical Sciences, Faculty of Applied Medical Sciences, Al Baha University, Saudi Arabia E-mail: amala2050@yahoo.co

3 Fellow of Nursing, PhD in Community Health Nursing, Ain Shams University Hospital

4 Assistant professor of Nursing Administration department, Faculty of Nursing, South Valley University, Egypt

Abstract

Background: Green management is a way for healthcare institutions to lessen their impact on the environment and occupational hazards. **Aim:** This study aimed to evaluate the effectiveness of implementing green management program on nursing staff' knowledge, attitudes and green management practices toward occupational safety. **Research design:** The goal of this study was accomplished using a quasi-experimental design. **Setting:** This study was carried out in Kafr El-Dawar General Hospital which is affiliated with the Ministry of Health and Population (MOHP), this hospital is the second largest hospital at El- Beheira Governorate. **Sample:** By using a convenience sampling technique, a total of 100 nursing staff, from the previously mentioned setting, who accepted to participate in this study were included in the study. **Tools:** Three tools were used: Tool I: Structured interviewing questionnaire: It consists of three parts as the following: Part I is concerned with the demographic data of the studied nursing staff, Part II is concerned with nursing staff' knowledge and Part III included nursing staff' attitudes; Tool II: Green management practices questionnaire; and Tool III: The Occupational Safety Scale (OSS). **Results:** Green management was low among the majority of nursing staff before the intervention; after the intervention, most of them improved to a high level, which they maintained for 78.0% of the time. Comparably, less than 75% of the nursing staff had low levels of occupational safety before the intervention, and most of them improved to high levels after it. **Conclusion:** Green management practices, knowledge and attitudes of nursing staff about occupational safety are positively correlated with the implementation of green management program. **Recommendations:** Hospitals should offer a safe environment for staff by supporting the green management system and continuing to provide green management programs for nursing staff to improve their knowledge and attitudes. Encouraging all healthcare facilities to embrace occupational safety regulations and green management practices to decrease waste, protect the environment and make the workplace safer for healthcare workers. **Keywords:** Green management program, Nursing staff' knowledge, attitudes and green management practices, Occupational safety

Introduction:

Recently, the greening of healthcare organization and environmental sustainability become the main concern of the majority of organizations. "green management" is the process of integrating ecologically friendly practices and guidelines into the running and administration of medical facilities (O'Hara et al., 2022). Hospitals that want to practice green management work together with environmental specialists, administrators, and healthcare professionals to create and execute sustainable policies and practices. The ultimate objective of hospital green management is to advance environmental stewardship and

sustainability within the healthcare sector (Adu et al., 2020).

A registered nurse who oversees the daily operations of a nursing unit in a medical facility is referred to as staff nurse. They are frequently in charge of maintaining compliance with legal requirements, participate in developing and implementing policies and procedures, and improving the health and wellness of both staff members and patients (Barraclough et al., 2019). To ensure that patients receive top-notch treatment, nurses closely communicate with other medical specialists, including physicians, administrators, and support staff. They might also be in charge

of creating timetables, developing the workforce, and budget planning. To promote a culture of safety and well-being at work, they are essential (Ofei et al., 2020).

The concept of hospital occupational safety involves identifying and assessing any hazards within the hospital environment, followed by the implementation of controls aimed at mitigating or eliminating those risks. This includes providing workers with the appropriate PPE, setting up protocols for infection prevention and control, and instructing staff members on safe work practices (Dopolani et al., 2022). To safeguard healthcare professionals, such as nurses from potential job risks, such as: bodily harm, psychological pressures and infectious infections, hospitals must prioritize occupational safety (Minikumary et al., 2023).

Nursing staff awareness of safety protocols and procedures, participation in safety training programs, availability, appropriate utilization and promotion of a culture of safety, and management of work-related stress and burnout are all vital components of their role in promoting safety and well-being. All things considered. Therefore, nursing staff play a critical role in maintaining a safe and healthy work environment for themselves and patients (Saputra & Mahaputra, 2022).

Significance of the study

Nursing staff form the largest group of healthcare providers, whose professional capabilities have an important role in the realization of an effective healthcare system. They also exposed to a high rate of workplace hazards especially ICU nurses. Therefore, promoting friendly environment behaviors, improving workplace safety and supporting sustainable practices are considered the main concern of healthcare organizations to maintain sustainable development (Roscoe et al., 2019). Green management program can provide advice on how to appropriately handle hazardous materials and trash; and contribute to the development of a safe work environment, where staff are encouraged to prioritize their own health and safety, which result in a safer and more productive work environment (Anwar et al., 2020). So the researchers conducted this study to evaluate the effectiveness of implementing green management program on nursing staff knowledge, attitudes and green management practices towards occupational safety.

Aims of the study:

Evaluate the effectiveness of implementing green management program on nursing staff knowledge, attitudes and green management practices towards occupational safety

Research Hypothesis

H1: Implementing the green management program had a positive effect on nursing Staff Knowledge, attitudes and green management practices.

H2: Implementing the green management program had a positive effect on nursing Staff occupational safety.

Subjects and Methods

Research design:

The goal of this study was accomplished using a quasi-experimental design

Setting:

This study was carried out in Kafr El-Dawar General Hospital which is affiliated with the Ministry of Health and Population (MOHP) with a bed capacity of 318 beds. This hospital is the second largest hospital at El- Beheira Governorate. Also, it is one of the hospitals that started serious steps to fulfill the requirements of the General Authority for Health Accreditation and Regulation (GAHAR). The study included all Intensive Care Units (ICUs) (n=10), namely: general ICU, pediatric, high risk, neuro- surgery, coronary (A and B), dialysis, toxicology, eclampsia and burn units.

Sample:

By using a convenience sampling technique, a total of 100 nursing staff from the previously mentioned setting, who were willing to participate in this study were included in the study.

Tools of the study:

Tool I: The structured interviewing questionnaire. It was developed by the researchers based on a through review of related literature (Singh et al., 2020; Pinzone et al., 2019; and Darnall et al., 2018). It includes three parts as follows:

Part I: Demographic data of the studied nursing staff, such as: age, gender, educational qualification,

years of experience and attendance of training courses about green management and occupational safety.

Part II: Nursing staff's knowledge. It included twenty multiple-choice questions that covered a variety of topics as green management concepts, techniques, principles and benefits. A score of one was assigned to each right response, while a score of zero was assigned to each wrong response. A total score of < 70.0% was considered unacceptable, whereas a score of $\geq 70.0\%$ was considered satisfactory.

Part III: Nursing staff' attitudes, which measured using 22 items: Attitude towards clinical training area safety, safety while working in a team with colleagues, safety rules, the effectiveness of safety training and the effectiveness of personal protective equipment in preventing infection.

Tool II: Green management practices questionnaire: Following a survey of literature reviews, the researchers created it (Mousa & Othman, 2020 and Raut et al., 2019). It comprises six dimensions with 19 items, namely: leadership commitment to the sustainability dimension (3-item); staff engagement and training dimension (3-item); sustainability planning and implementation dimension (3-item); green procurement dimension (3-item); energy conservation dimension (3-item); and finally, waste reduction and management dimension (4-item). Likert scale scores were assigned to each item as follows: never (0 point), sometimes (1 point) and always (2 points). The overall score ranged from 0 to 38. The overall scores of every member of the nursing staff are classified as low level of green management practice if the score was $\leq 70\%$ and high level of green management practice if the score was $> 70\%$.

Tool III: The Occupational Safety Scale (OSS), This evaluated how nursing staff members felt about occupational safety. It was developed by Ozturk & Babacan (2012) and adapted by the researchers. It includes 25 items grouped into five dimensions, 5 items for each dimension, as follows: physical environment dimension, such as: this workplace's physical environment is secure; equipment safety dimension, such as: the workplace's equipment is safe; hazardous exposures dimension, such as: the chemicals used here are kept in a safe manner; workplace violence dimension, such as: I feel secure from violence here; and finally, job stress dimension, such as: the workload at this workplace is manageable Responses were measured using 5-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree)

The overall score ranged from 25 to 125. The total scores of each nursing staff were categorized as high level of occupational safety if the score was $>70\%$ and low level of occupational safety if the score was 70% or less.

Ethical considerations

The scientific ethical committee at Faculty of Nursing, Damanhour University granted ethical permission before the research's commencement. After outlining the purpose of the study to the nursing staff, oral consent to participate in the study was obtained. The study was voluntary so the nursing staff was notified by the researchers that they might leave the study at any time with no explanation; and anonymity was maintained in this study. They were also guaranteed the privacy of their data.

Pilot study:

Ten nursing staff members, or 10% of the projected sample size, participated in a pilot study to evaluate the viability of the research instruments and the comprehensibility of the study's questions. The length of time needed for participants to finish the questionnaire was also estimated with the aid of the pilot research. No changes or deletions were made to the items based on the pilot study's findings, and the nursing staff who took part were not included in the final sample.

Validity and Reliability:

Five experts in nursing administration assessed the data-collecting instruments to make sure they captured all pertinent information and appropriately measured the topic under study. The consistency of results across time, observers, and test sections was examined using Cronbach's alpha test to evaluate the reliability of the instruments. For tools I, II and III, the dependability scores were in order, 0.834, 0.870 and 0.925. This indicated that they were reliable. This suggests that the instruments measured the intended constructs consistently and with reliability.

Fieldwork:

From October 2023 to February 2024, the researchers began data collection and training program implementation during the morning shift. The investigators presented themselves to the nursing staff and outlined the purpose of the investigation. The researchers design the green management program according to the following phases: assessment; planning and implementation ; and evaluation.

Procedure:

Assessment phase:

The researchers gave the nursing staff under study an explanation of the purpose of the study and the elements of the instruments. Additionally, The researchers assess nursing staff' knowledge, attitudes and practices of green management and occupational safety through giving them the study's questionnaires. Pretest results were used to determine the needs of the nursing staff for creating the program.

Planning and implementation phase:

The researchers divided the studied nursing staff into four groups; each trained for two days (three hours per day –two sessions) in the form of lectures, group discussion and role play. In the hospital conference hall, theoretical sessions were led by the researchers. The nursing staff were informed about the group to which they would be allocated, the time and place of training. The program implementation took about four weeks (each group two days per week).

Contents of the training program: First day:

First Session: Overview and Introduction to Green Management (1.5 hours). Explain the meaning of "green management" and its significance for healthcare establishments; describe briefly the many green management strategies that healthcare institutions might use; and describe how the nursing department might use these methods.

Key Green Management Strategies in the second session (1.5 hours). Talk about the main tactics used by healthcare institutions to adopt green management techniques; describe how nursing staff can implement these tactics; and give instances of effective tactics for execution.

On the Second day:

Third Session: Green management best practices (1.5 hours). Provide case studies and best practices from healthcare institutions that have effectively incorporated green management principles. Talk about the advantages they have experienced and the difficulties they have surmounted. Urge the nursing staff to take these examples as inspiration and modify them in their work setting.

Action planning and evaluation (1.5 hours) is the fourth session. Requests the nursing staff to create a plan of action for bringing green management techniques into their practices. Assist with setting quantifiable objectives and designing an implementation schedule. After the intervention, evaluate the training sessions, and then follow up with the nursing staff to ensure their success in putting green management techniques into practice.

Evaluation phase: After implementation of the green management program, nursing staff' knowledge, attitudes and practices towards green management and occupational safety were evaluated after two months using the same tools that were used during the pretest assessment.

Statistical Analysis

Data were organized, and categorized, result were presented in tables. Data were analyzed using a compatible personal computer using the Statistical Package for the Social Sciences (SPSS Inc; version 21; IBM Corp., Armonk, NY, USA). The ANOVA test was used to compare mean scores pre-, post and follow-up intervention. The correlation coefficient is a numerical measure of some type of correlation, meaning a statistical relationship between two variables. Linear regression analysis is used to predict the value of a variable based on the value of another variable. The results were considered significant when the probability of error was less than 5% ($p < 0.05$), and highly significant when the probability of error was less than 0.1% ($p < 0.001$). The developed tool was tested for its reliability by using Cronbach's alpha test.

Results:

Table (1) shows that the mean age of nursing staff was 41.34 ± 3.89 and 84% of them were female. Additionally, 78% of nursing staff held a bachelor's degree, and the mean years of experience was 16.44 ± 4.7 .

Figure (1) illustrates that only 11% of nursing staff attended training courses on green management and occupational safety.

Table (2) indicates that there was a significant improvement and difference detected between all green management dimensions regarding nursing staff' knowledge related to leadership commitment to sustainability; staff engagement and training; sustainability planning and implementation; green procurement; energy conservation; and waste reduction and management, pre and post-implementing green management programs at p-value of $<0.01^{**}$

Figure (2) illustrates that before the implementation green management program, 85% of nursing staff had an unsatisfactory knowledge level about green management. After the intervention, 92% of them had a satisfactory level of knowledge.

Figure (3) illustrates that before the implementation green management program, 87% of nursing staff had a low level of green management practices. After the intervention, 90% of them had

a high level of practice.

Figure (4) illustrates that before the implementation green management program, 87% of nursing staff had a negative **attitude** level about green management practices. After the intervention, 90% of them had a positive level of **attitude**.

Table (3) indicates that there was a significant improvement and difference detected between all occupational safety dimensions among the nursing staff' knowledge related to physical environment, equipment safety, hazardous exposures, workplace violence and job stress pre- and post-implementing green management program at a p-value of $<0.01^{**}$

Figure (5) illustrates that before the implementation green management program, 70% of the studied nursing staff had a low perception level regarding occupational safety. However, after the implementing green management program, 86% of them had a high perception level regarding occupational safety.

Table (4): illustrates that there were highly statistically significant positive correlations between total knowledge and total attitude of nursing management staff at pre and post-implementing green management programs. Highly statistically significant positive correlations are found between total knowledge and total practices pre and post-implementing green management programs.

Table (1) Demographic data distribution of the studied nursing staff (n=100).

Items	No	%
Age:		
25 - <35	43	43.0
35 - <45	37	37.0
>45	20	20.0
Mean \pm SD		41.34 ± 3.89
Gender :		
Male	16	16.0
Female	84	84.0
Educational qualification:		
Bachelor's	78	78.0
Master's degree	18	18.0
PhD degree	4	4.0
Years of experience:		
1 - <10 years	26	26.0
10 - 20	52	52.0
>20 years	22	22.0
Mean \pm SD		16.44 ± 4.7

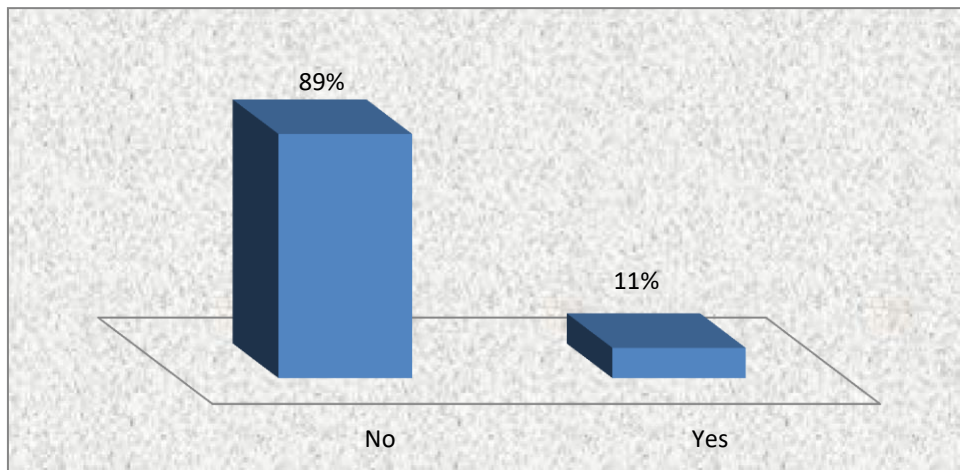


Figure (1) Nursing staff distribution regarding their attendance of training courses on green management and occupational safety (n=100).

Table (2) Mean score differences among nursing staff’ knowledge about green management practices pre and post-implementing green management program (n=100).

Domains	Pre Mean (SD)	Post Mean (SD)	ANOVA P. value
Leadership commitment to sustainability	1.77 (0.34)	4.54 (1.7)	8.77 = <0.01**
Staff engagement and training	1.88 (0.25)	5.23 (1.6)	7.88 = <0.01**
Sustainability planning and implementation	2.22 (0.23)	4.77 (1.4)	7.33 = <0.01**
Green procurement	1.66 (0.37)	3.86 (0.68)	8.22 = <0.01**
Energy conservation	1.72 (0.26)	4.23 (1.06)	7.44 = <0.01**
Waste reduction and management	2.64 (0.87)	5.89 (1.55)	9.56 = <0.01**

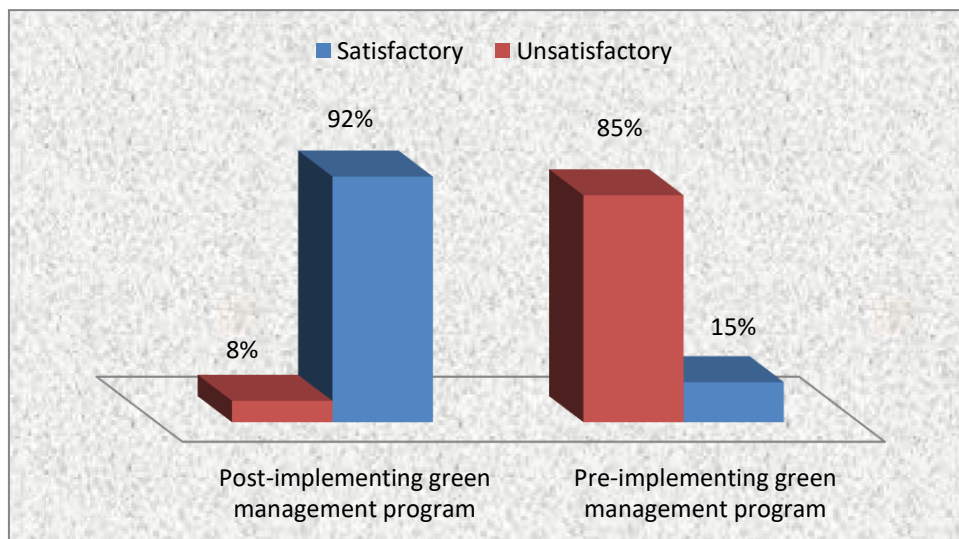


Figure (2) Nursing staff’ total knowledge level pre and post-implementing green management program (n=100).

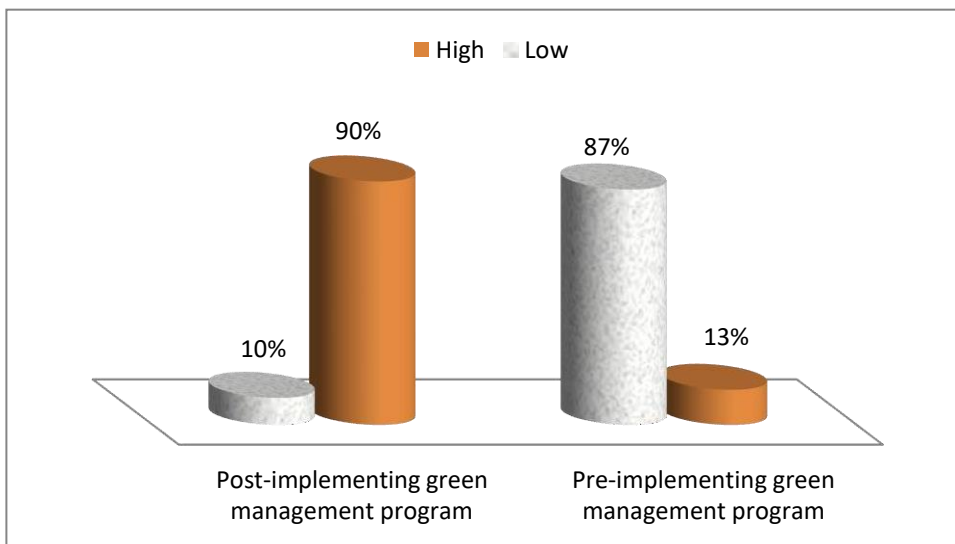


Figure (3) Nursing staff' total knowledge level regarding green management practices pre and post-implementing green management program (n=100).

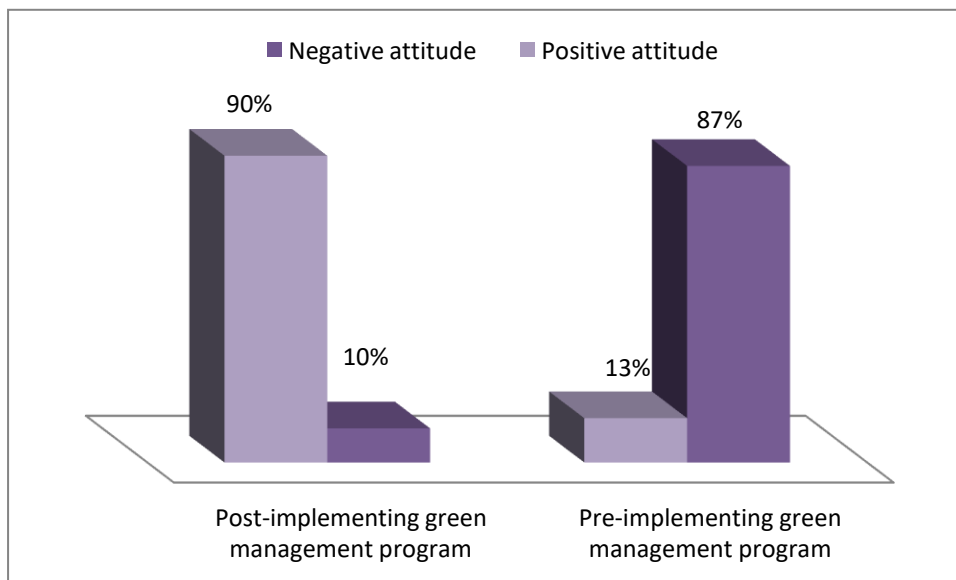


Figure (4) Nursing staff' total attitude level regarding green management practices pre and post-implementing green management program (n=100).

Table (3) Nursing staff mean score perception regarding occupational safety pre and post-implementing green management program (n=100).

Domains	Pre-implementing green management program Mean (SD)	Post-implementing green management program Mean (SD)	ANOVA P. value
Physical environment	13.45 (2.8)	19.7 (3.1)	8.43 <0.01**
Equipment safety	14.7 (5.2)	20.8 (7.3)	9.77 <0.01**
Hazardous exposures	13.9 (2.6)	21.4 (3.4)	7.88 <0.01**
Workplace violence	14.8 (5.3)	19.7 (2.7)	9.56 <0.01**
Job stress	12.6 (4.0)	20.5 (3.4)	7.28 <0.01**

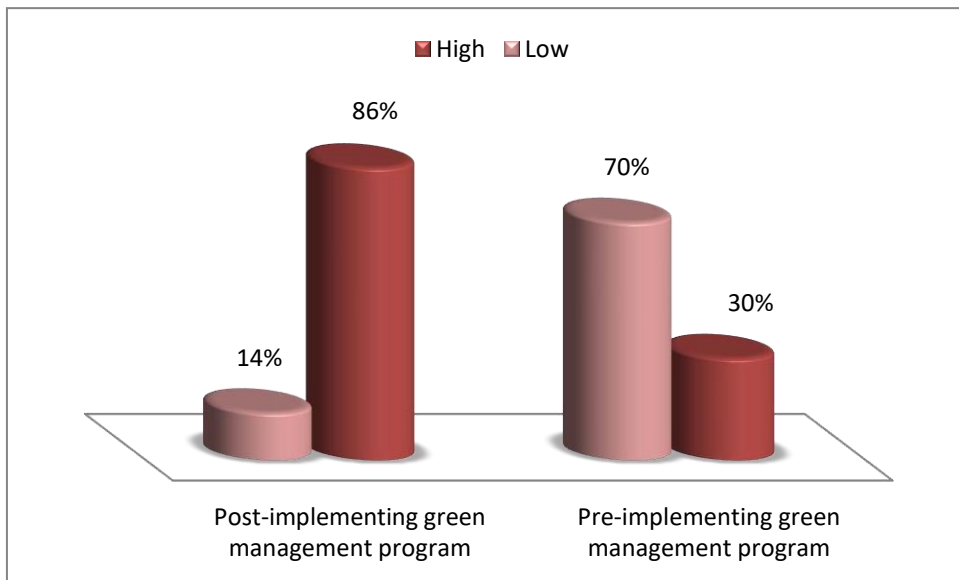


Figure (5) Nursing staff's total perception level regarding occupational safety pre and post-implementing green management program (n=100).

Table (4): Correlation between total knowledge, attitude, and green management practices towards occupational safety pre and post the implementing green management program.

Program phase	Study variables		Total knowledge	Total attitude	Total practices
Pre Program	Total knowledge	R	1	.865	0.663
		p-value		.000**	.000**
	Total attitude	R	.875	1	.757
		p-value	.000**		.000**
	Total practices	R	0.649	.756	1
		p-value	.000**	.000**	
Post Program	Total knowledge	R	1	0.505	.786
		p-value		.001**	.000**
	Total attitude	R	0.506	1	0.538
		p-value	.001**		.001**
	Total practices	R	.789	0.534	1
		p-value	.000**	.001**	

Discussion:

To improve performance, managers and/or management must set green goals, targets and responsibilities for their strategic management. Organizations must also evaluate the number of green incidents, the use of environmental responsibility, and the effective communication of environmental policy within their operational scope (Renwick et al., 2019).

Integrating concepts of environmental sustainability into organizational management practices is known as "green management." Nursing staff must prioritize the occupational safety to reduce the environmental effects of their healthcare facility (Pinzone et al., 2019).

The application of innovation across an organization to achieve sustainability, waste reduction, social responsibility and competitive advantage through ongoing learning and development and by adopting environmental goals and strategies that are fully integrated with the organization's goals and strategies is known as "green management ". Green management is the application of production, research, development, and marketing strategies that minimize environmental effects and yield ecologically friendly products. Better environmental quality is one of the fundamental objectives of green management, we think a more detailed and focused conception is necessary (**Darnall et al., 2018**).

The current study detected that only slightly more than ten percent of nursing staff attended training courses on green management and occupational safety. From the researchers' point of view, this may be the cause of knowledge deficit. Also, it reflected the need of the studied nursing staff to attend and implement green management programs and occupational safety.

The current study results indicated that there was a significant improvement and difference detected between all green management dimensions regarding nursing staff' knowledge related to leadership commitment to sustainability; staff engagement and training; sustainability planning and implementation; green procurement; energy conservation; and waste reduction and management, pre and post-implementing green management programs. From the researchers' point of view, this may be related to the nursing staff's desire to improve their knowledge regarding green management, which also reflected the positive effects of green management implementation.

The results of this study were in line with those of **Tarkar (2022)**, who examined the role of green hospitals in sustainable construction and found that there was a highly statistically significant difference in the level of knowledge improvement among nursing management staff. The study focused on the benefits, rating systems, and constraints of green hospitals. Furthermore, the present investigation aligned with the work of **Ozdemir and Tuna (2022)**, who investigated green and smart hospitals: a review in the context of indoor air quality. The majority of the nursing staff had a satisfactory level of knowledge, according to the indoor air quality assessment for smart environments.

According to green management nursing staff's knowledge level, the current study results revealed that before the implementation green management program, the majority of the nursing staff had an unsatisfactory knowledge level about green management, after the implementation, almost all of them had a satisfactory level of knowledge. **El-Shaer (2019)** observed a significant improvement in the knowledge level of studied nurses following a training intervention.

The current study results revealed that before the implementation green management program, the majority of nursing staff had a low knowledge level of green management practices. After the intervention, almost all of them had a high level of knowledge, from the researchers' point of view, it confirmed the effectiveness of the intervention. The present study was in agreement with **Garg and Dewan (2022)**, who studied green hospitals and found that there is a highly statistically significant difference related to green management practice.

The results of this investigation were consistent with those of **Benzidia et al., (2021)** who carried out a study on the effects of artificial intelligence and big data analytics on green supply chain process integration and hospital environmental performance. They found that most participants had competent full practice both during the program phase and after and that the current study was supported by **Jemai et al. (2020)** who manage the environmental impact of a sophisticated green supply chain in a sustainable manner to control waste.

In a similar vein, **Cruz et al., (2018)** found that learning about environmental issues while enrolled in nursing schools, as well as attending pertinent seminars and training on the subject, had a positive influence on the environment. By encouraging an atmosphere of environmental stewardship and involving nursing staff in green projects, small- and medium- sized hospitality businesses could operate more sustainably and effectively (**Elshaer et al., 2023**).

Li et al., (2021) found that nurses' intention to practice environmentally friendly behavior positively influenced their actual conduct. **Lee and Lee (2022)** also highlighted the importance of top management in motivating nursing staff to participate in ecologically friendly healthcare practices.

According to **Leppänen et al., (2022)**. Additionally, it was reported by **Abd- elmonem et al., (2022)** that a little more than two- third of nurses thought favorably of green management practices.

The current study results revealed that before the implementation green management program, the majority of nursing staff had a negative attitude level about green management practices, after the intervention, almost all of them had a positive level of attitude. From the researchers' point of view, it reflected the success of the intervention. These findings are consistent with past research on the subject, including that conducted by **Ebrahim et al., (2022)**, which discovered that educational interventions were effective in increasing nurses' knowledge about, attitudes toward, and actions associated with sustainable development.

According to our findings, following participation in green management training, nursing staff reported that there was a significant improvement and difference detected between all occupational safety dimensions among the nursing staff' knowledge related to physical environment, equipment safety, hazardous exposures, workplace violence and job stress pre- and post-implementing green management program. The aforementioned outcomes align with the research conducted by **Taghavi and Ghazanchaei (2019)**, which highlights the advantages of incorporating green management practices in healthcare facilities. These benefits include enhanced patient and staff health and social outcomes, financial savings and environmental preservation. Green management has been shown to help lower occupational dangers, according to **Bolandian-Bafghi et al., (2022)**.

The current study results indicated that before the implementation green management program, less than three- quarters of the studied nursing staff had a low perception level regarding occupational safety. But, after the implementing green management program, the majority of them had a high perception level regarding occupational safety. The present study was consistent with **Wahl et al., (2022)**, who investigated the experience of learning from everyday work in daily safety huddles—a multi-method study and found that the majority of both nurses and patients have a high total level of safety immediately post-program.

The results of the current study illustrated that there were highly statistically significant positive correlation between total knowledge and total attitude of nursing staff in pre and post- implementing green management programs. Moreover, Highly statistically significant positive correlation are found between total knowledge and total practices pre and post- implementing green management programs. From the researchers' point of view, this might bedue to effective knowledge having a good impact on practices that increase and reflect on occupational safety, all this due to effective education programs. These results are in line with research by **Rayan et al., (2021)**, which found a statistically significant and favorable association between nurses' total knowledge, attitudes and practices scores regarding occupational safety.

Conclusion:

Based on the findings of the current study, it can be concluded that implementing a green management program has a positive effect on nursing staff's knowledge, attitudes, and green management practices towards occupational safety. There was a highly statistically significant positive correlation between total knowledge and total attitude of nursing staff and between total knowledge and total practices in pre and post-implementing green management programs.

Recommendations:

Based on the findings of the current study the following recommendations are suggested:

- Maintaining a green management program to enhance the attitudes and knowledge of nursing personnel.
- By supporting green management systems, hospitals can provide their staff and patients with safe environment.
- Encouraging all healthcare facilities to embrace occupational safety regulations and green management practices to decrease waste, protect the environment and make the workplace safer for healthcare workers.

References:

- Abd-lemonem, A. M., Rashed, S. E., & Hasanin, A. G. (2022).** The Relation between Green Human Resource Management Strategies and Organizational Innovativeness among Head Nurses. *Assiut Scientific Nursing Journal*, *10*(32), 113-125.
- Adu, R. O., Gyasi, S. F., Essumang, D. K., & Otobil, K. B. (2020).** Medical Waste-Sorting and Management Practices in Five Hospitals in Ghana. *Journal of Environmental and Public Health*, *2020*.1-14. Doi: 10.1155/2020/2934296.
- Anwar, N., Mahmood, N. H. N., Yusliza, M. Y., Ramayah, T., Faezah, J. N., & Khalid, W. (2020).** Green Human Resource Management for Organizational Citizenship Behavior towards the Environment and Environmental Performance on a University Campus. *Journal of Cleaner Production*, *256*, 120401.
- Barraclough, K. A., Gleeson, A., Holt, S. G., & Agar, J. W. (2019).** Green Dialysis Survey: Establishing a Baseline for Environmental Sustainability across Dialysis Facilities in Victoria, Australia. *Nephrology*, *24*(1), 88-93.
- Benzidia, S., Makaoui, N., & Bentahar, O. (2021).** The Impact of Big Data Analytics and Artificial Intelligence on Green Supply Chain Process Integration and Hospital Environmental Performance. *Technological Forecasting and Social Change*, *165*, 120557.
- Bolandian-Bafghi, S., Adib-Hajbaghery, M., & Zandi, M. (2022).** Nurses' Experiences of the Role of Organizational and Environmental Factors in the Development of Love of the Profession: a qualitative study. *BMC Nursing*, *21*(1), 1-8.
- Cruz, J. P., Alshammari, F., & Felicilda-Reynaldo, R. F. D. (2018).** Predictors of Saudi Nursing Students' Attitudes towards Saudi Nursing Students' Attitudes towards Environment and Sustainability in health care. *International nursing review*, *65*(3), 408-416.
- Darnall, N., Jolley, G., & Handfield, R. (2018).** Environmental Management Systems and Green Supply Chain Management: Complements for Sustainability? *Business Strategy and the Environment*, *18*, 30-45.
- Dopolani, F. N., Arefi, M. F., Akhlaghi, E., Ghalichi, Z., Salehi, A. S., Khajehnasiri, F., & KHAMMAR, A. (2022).** Investigation of Occupational Fatigue and Safety Climate among Nurses using the Structural Equation Model. *Work*, (Preprint), 1-11.
- Elshall, S. E., Darwish, S. S., & Shokry, W.M. (2022).** The Effectiveness of Educational Interventions about Sustainability Development among Nursing Students. *Egyptian Journal of Health Care*, *13*(1), 294-310.
- El-Shaer, A. M. (2019).** Impact of Time Management Program on Time Wasters of Head Nurses and their Perception toward Effective Organizational Performance. *IOSR Journal of Nursing and Health Science*, *4*(3), 18-30.
- El-Shaer, I. A., Azazz, A. M., & Fayyad, S. (2023).** Green Management and Sustainable Performance of Small-and Medium-Sized Hospitality Businesses: Moderating the Role of an Employee's Pro- Environmental Behaviour. *International Journal of Environmental Research and Public Health*, *20*, 2244. Doi: 10.3390/ijerph20032244.
- Garg, A., & Dewan, A. (2022).** Green Hospitals. In *Manual of Hospital Planning and Designing* (pp. 485-498). Springer, Singapore
- Jemai, J., Do Chung, B., & Sarkar, B. (2020).** Environmental Effect for a Complex Green Supply-Chain Management to Control Waste: A Sustainable Approach.. *Journal of Cleaner Production*, *277*, 122919
- Lee, S. M., & Lee, D. (2022).** Developing Green Healthcare Activities in the Total Quality Management Framework. *International Journal of Environmental Research and Public Health*, *19*(11), 6504. Doi:10.3390/ijerph19116504.

- Leppänen, T., Kvist, T., McDermott- Levy, R., & Kankkunen, P. (2022).** Nurses and Nurse Managers' Perceptions of Sustainable Development in Perioperative Work: A qualitative study. *Journal of Clinical Nursing, 31*(7-8), 1061-1072.
- Li, M., Gong, Z., Gilal, F. G., Van Swol, L. M., Xu, J., & Li, F. (2021).** The Moderating Role of Ethical Leadership on Nurses' Green Behavior Intentions and Real Green Behavior. *Bio Med Research International, 2021*.
- Minikumary, C. K., Pillai, J. S., & Mondal, R. (2023).** A Study on Occupational Safety and Health among Workers at a Tertiary Care Hospital in South India. *International Journal of Community Medicine and Public Health, 10*(1), 254.
- Mousa, S. K., & Othman, M. (2020).** The Impact of Green Human Resource Management Practices on Sustainable Performance in Healthcare Organizations: A Conceptual Framework. *Journal of Cleaner Production, 243*, 118595.
- Ofei, A. M. A., Paarima, Y., & Barnes, T. (2020).** Exploring the Management Competencies of Nurse Managers in the Greater Accra Region, Ghana. *International Journal of Africa Nursing Sciences, 13*, 100248.
- O'Hara, A. C., Miller, A. C., Spinks, H., Seifert, A., Mills, T., & Tuininga, A. R. (2022).** The Sustainable Prescription: Benefits of Green Roof Implementation for Urban Hospitals. *Frontiers in Sustainable Cities, 4*, 70.
- Ozdemir, M., & Tuna, G. (2022).** Green and Smart Hospitals: A Review in the Context of Indoor Air Quality (IAQ). Indoor Air Quality Assessment for Smart Environments, 71-85
- Ozturk, H., & Babacan, E. (2012).** A Study in Scale Development: The Occupational Safety Scale (OSS) for Health Care Personnel Working in Hospital/Bir Click Gelistirme Calismasi: Hastened Clean Saglik Personal icin is guvenligi olcegi. *Journal of Education and Research in Nursing, 9*(1), 36-42.
- Pinzone, M., Guerci, M., Lettieri, E., & Huisingsh, D. (2019).** Effects of Green Training on Pro-Environmental Behaviors and Job Satisfaction: Evidence from the Italian Healthcare Sector. *Journal of Cleaner Production, 226*, 221-232.
- Raut, R. D., Luthra, S., Narkhede, B. E., Mangla, S. K., Gardas, B. B., & Priyadarshinee, P. (2019).** Examining the Performance-Oriented Indicators for Implementing Green Management Practices in the Indian Agro Sector. *Journal of Cleaner Production, 215*, 926-943.
- Rayan, H. N., Abdallah, S. M., & Abdrabou, H. M. (2021).** Assessment of Nurse Interns' Knowledge and Practice & Attitude regarding Occupational Health Hazards. *Egyptian Journal of Health Care, 12*(1), 1576-1590.
- Renwick D. W. S., Redman, T., Maguire S. (2019).** Green Human Resource Management: A Review, and Research Agenda, *International Journal of Management Review; 15:1-14. (1/2), 199-212.*
- Roscoe, S., Subramanian, N., Jabbour, C. J., & Chong, T. (2019).** Green Human Resource Management and the Enablers of Green Organizational Culture: Enhancing a Firm's Environmental Performance for Sustainable Development. *Business Strategy and the Environment, 28*(5), 737-749.
- Saputra, F., Mahaputra, M. R. (2022).** Buliding Occupational Safety and Health(K3): Analysis of the Work Environment and Work Discipline. *Journal of Law, Politic and Humanities, 2*(3), 105-114.
- Singh, N., Tang, Y., & Ogunseitan, O. A. (2020).** Environmentally Sustainable Management of Used Personal Protective Equipment. *Environmental Science & Technology, 54*(14), 8500-8502.
- Taghavi, L. & Ghazanchaei, E. (2019).** Green Management: A Step in Sustainable Development of Health Centers. 4. 28-37

Tarkar, P. (2022). Role of Green Hospitals in Sustainable Construction: Benefits, Rating Systems and Constraints. *Materials Today: Proceedings*, 60, 247-252

Wahl, K., Stenmarker, M., & Ros, A. (2022). Experience of Learning from Everyday Work in Daily Safety Huddles—a Multi-Method Study. *BMC Health Services Research*, 22(1), 1-14