



## Assessment Of Green Human Resource Management Practices as Perceived by Nurses at Zagazig University Hospital

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### *Abstract*

**Background:** Green human resource management (GHRM), often referred to as green HR, also encompasses active efforts by the human resources in making the workplace as environmentally friendly as possible, while also encouraging their staff to do the same. It is responsible for creating a sustainable workspace, by transforming the HR operations keeping sustainable goals in mind. **The aim:** was to assess Green Human Resource Management Practices as Perceived by Nurses at Zagazig University Hospital. **Research design:** A descriptive design was used to achieve the aim of this study. **Setting:** this study was conducted at Zagazig University Hospitals in Zagazig city, AL-Sharqia governorate Egypt . **Sampling:** Proportionate Stratified random sample of nurses who agreed to participate (400). **Tool:**Green human resource management Questionnaire (GHRMQ),. **Results:** The results indicated that the overall level of GHRM was high (65%) with the highest score of GHRM domain (73.5%) was related to green training and development domain. **Conclusion:** the highest percent of the studied nurses (65%) rated GHRM practices in their workplace as high. **Recommendation:** Design recognition and reward systems that emphasize green behaviors and innovation, including both monetary and non-monetary incentives to reinforce environmental responsibility

**Keywords:** Green human resource management.

### **Introduction**

In recent decades, environmental sustainability has become a critical global concern across all sectors, including healthcare. Organizations are increasingly held accountable for the ecological consequences of their operations and are under pressure from governments, accreditation bodies, and communities to adopt environmentally responsible practices. This shift has compelled institutions to integrate sustainability into their strategic agendas, not only to comply with regulatory requirements but also to enhance reputation, efficiency, and service quality (Putnis & Neilson, 2022).

Green Human Resource Management (GHRM) refers to the deliberate integration of environmental management principles into traditional HRM functions such as recruitment, training, performance appraisal, and rewards. It is regarded as the “backbone” of organizations aiming to achieve sustainable development because it translates environmental objectives into actionable workplace behaviors (Aboramadan, 2022).



The scope of GHRM extends beyond environmental conservation to encompass broader dimensions of organizational sustainability. Contemporary scholarship highlights that GHRM not only fosters environmental awareness but also supports social equity and economic viability, thereby aligning organizations with the triple bottom line of sustainability—people, planet, and profit (Al-Shammari et al., 2022).

Healthcare organizations, in particular, have a distinct responsibility in adopting GHRM because of their dual mandate: providing safe, high-quality patient care while minimizing adverse environmental impacts. Hospitals are resource-intensive institutions that generate significant amounts of waste, consume large volumes of energy, and rely on complex supply chains. Nurses, as the largest professional workforce within hospitals, play a crucial role in operationalizing sustainability initiatives (Ali & Ahmed, 2022).

The integration of GHRM within healthcare settings also has indirect benefits beyond environmental sustainability. When nurses perceive strong organizational commitment to green practices, it can foster higher engagement, professional pride, and alignment with global healthcare quality standards. Additionally, embedding sustainability in HR practices may improve recruitment and retention of nurses by appealing to the values of younger generations of health professionals who prioritize environmental and social responsibility (Xiao et al., 2022).

Despite its growing significance, empirical research on GHRM in healthcare, particularly in the Egyptian context, remains limited. Most studies have focused on industrial or corporate sectors, with few examining how nurses perceive and respond to GHRM practices in public academic hospitals. This gap highlights the need for context-specific research to assess the extent to which GHRM is understood, implemented, and valued by healthcare professionals (Abd-elmonem et al., 2022).

#### **Significance of the study**

Contemporary complex and changing environments require integrated policies that combine the features and benefits of multiple strategies (Rafique et al., 2020). Therefore, today, in addition to the economic dimension, it is also important to pay attention to social and environmental dimensions. The adoption of green human resource management (GHRM) practices provides organizations with a sustainable competitive advantage, and the emerging concept of GHRM has been shown to improve environmental outcomes and organizational sustainability (Islam et al., 2021).

Although there is a growing body of research on GHRM in corporate and industrial contexts, studies in the healthcare sector remain limited. Hospitals, as resource-intensive organizations, face significant environmental challenges, and thus the application of GHRM is particularly relevant. Nurses, being the largest professional workforce in hospitals, play a pivotal role in ensuring that green practices are not only introduced but also effectively implemented in daily healthcare operations. Their perceptions of these practices are vital in assessing the extent to which GHRM is successfully embedded within healthcare institutions (Muisyo et al., 2021).

Up to the researchers' knowledge, there are no previous studies that specifically examine Green Human Resource Management practices as perceived by nurses. Therefore, it is vitally important to assess nurses' perceptions of GHRM practices in this context. Such an assessment will provide valuable insights into the current state of green human resource management practice, highlight areas of strength and weakness, and offer practical recommendations to support sustainability in healthcare services..

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#### **Significance of the study:**

Craniotomy is a vital neurosurgical procedure that allows direct access to the brain for the diagnosis and treatment of various intracranial conditions. Its importance lies in its ability to relieve life-threatening pressure, remove abnormal growths, repair damaged tissues, and improve neurological function. The



procedure is often life-saving and can significantly enhance a patient's quality of life when performed with precision and followed by comprehensive postoperative care ( **Sato et al .,2021**). Complications post craniotomy continue to be a major concern for medical professionals, common issues such as hemorrhage, cerebral edema, cognitive impairments, behavioral abnormalities, electrolyte imbalances, infections, seizures, venous thrombosis, and hydrocephalus, prompt identification and effective management of these problems play a crucial role in achieving positive patient outcomes (**Hassan & Masror-Roudsary, 2023**).

Effective nursing practice minimizes risks post craniotomy such as increased intracranial pressure, hemorrhage, seizures, and hospital-acquired infections, enhance patient safety, and reduce postoperative morbidity (**Shady et al., 2025**). Nurses should have special skills and knowledge to prevent complications because they are the person who spends the most time caring the patient. Nurses should have the ability to maintain the patient's physiological and psychosocial stability after craniotomy with responding to their unique needs. Nurses should be able to provide safe, healing and caring environment, and capable to adapt to any change that happened to patients' condition (**Mofatteh et al., 2023**). Therefore, this study aimed to assess factors affecting nursing performance regarding complications post craniotomy in neuro-intensive care unit.

#### **Aim of the study**

This study aims to assess Green Human Resource Management Practices as Perceived by Nurses at Zagazig University Hospital

**To fulfil this aim, the following research objectives are formulated to: -**

- Identify the perception level of green human resource management practices among nurses.

#### **Research questions:**

1. What is the perception level of green human resource management practices among nurses at zagazig university hospital?
2. What is the Relation between green human resource practices and nurses personal characteristic ?

#### **Subjects and Methods:**

##### **Research Design**

Descriptive design was used to achieve the aim of this study.

##### **Setting:**

This study was conducted at Zagazig University Hospitals in Zagazig city, AL-Sharqia governorate Egypt , Zagazig University Hospitals has a total capacity of 2074 beds, divided into several separate hospitals, each one has different medical specialty related to each other divided into two sectors as follows: 1) emergency sector that includes: Emergency Hospital, Surgery Hospital, Internal Medicine Hospital, Obstetrics Hospital and Outpatient Building. 2) El-Salam sector that includes: Children's Hospital, Heart & Chest Hospital, El-Salam Hospital and Economic treatment hospital.

##### **Population:**

The study population composed of

B) Staff nurses employed in the above-mentioned setting and their total number is 2770 nurses, all participants meet the following inclusion criteria:

- A. The available three categories of nurses were included (qualified nurses, technical institute of nursing & nursing diploma).
- B. Both genders.
- C. Had at least one year of experience.

E. Agree to participate in the study

##### **Sampling Design :**

- A) Proportionate Stratified random sample of nurses who agreed to participate (400). In total 413 questionnaires were distributed in the selected hospital, 400 properly filled questionnaires showing 97 % response rate were obtained. Thus, sample size considered for present research was comprised of 400 nurses



The sample size was calculated using the simplified formula  $(n=N/1+N(e)^2)$ , as provided by Yamane (1967), plus a dropout rate 10%.  $\{375+10\%=413\}$  as shown in table (1) ,  $n = N /1+ Ne^2$  , n = sample size, N = population size, e = margin error.

The sample size of staff nurses in each hospital (n=400) was estimated using the following formula, as illustrated in Table 1:

$$\frac{(\text{Number of nurses in each hospital} \times \text{Required sample size})}{\text{Total number of nurses in all hospitals}}$$

**Distribution of study subjects in Zagazig University hospitals**

Hospital name	Total number of staff nurses	Obtained sample size
1-New –Surgical Hospital	551	80
2-Internal Medicine Hospital	523	75
3-Emergency Hospital	345	50
4-Deliveryand Premature Hospital	202	31
5-The out- patient Hospital	189	28
6-The Cardiac and Chest Hospital	357	53
7-El –Salam Hospital	295	41
8-The Pediatric Hospital	262	35
9- Economic treatment hospital	46	7

**Tools of data collection**

To fulfill the purpose of this study, one tool was used for data collection as follows:

**Tool I: Green human resource management Questionnaire (GHRMQ):** It consisted of two parts as follows:

**Questionnaire (GHRMQ): It consisted of two parts as follows:**

**Part one:** Personal characteristics of nurses, which include the data about characteristics of the nurses such as age, gender, years of experience and educational qualifications.

**Part two:** GHRMQ developed by Shah (2019) to assess nurses GHRM. It consists of 28 items divided under 7 dimensions as follow; green job design (4 items), green recruitment and selection (3 items), green training and development (4 items), green performance management (6 items), green compensation management (5 items), green health and safety (3 items), and green labour relations (3 items).

**Scoring system:**

The nurses’ responses were measured on a 5point-scale ranging from 1=strongly disagree, 2=partly disagree, 3=neutral, 4=partly agree and 5=strongly agree. The perception level of nurses toward GHRM considered high if the scores ( $\geq 60\%$ ) and low if the score ( $< 60\%$ )

**Tool validity:**

The questionnaire was translated into Arabic; and then content and face validity were established by a panel of three experts at the Faculty of Nursing, Zagazig University. Experts were requested to express their opinions and comments on the tool and provide any suggestions for any additions or omissions of items. According to their opinions, all recommended modifications were performed by the researcher.



### **Tool reliability**

The tool was tested for reliability using the Cronbach's Alpha Coefficient factor test to determine the internal consistency of each scale and all were satisfactory for Green human resource management (GHRM), Cronbach's Alpha of GHRM: 0.945.

### **Ethical considerations:**

The study was approved by the research ethical committee, Faculty of Nursing, Zagazig University (M.D.Zu.N.uR/188/13/6/2023). Then, a letter containing the aim of the study was directed from the Faculty of Nursing to the medical and nursing administration of Zagazig University Hospitals requesting their approval and cooperation for data collection. Consent was established with the completion of the questionnaires. As well, verbal explanation of the nature and aim of the study had been explained to staff nurses included in the study sample. Likewise, an individual oral consent was received from each participant in the study after explaining the purpose of the study. Study participation were given an opportunity to refuse or to participate, and they were assured that the information would be used confidentially for the research purpose only.

### **Administrative design:**

Official permissions were obtained from the dean of the Faculty of Nursing Zagazig University, and approval to conduct the study was obtained from the medical and nursing directors of each hospital after explaining the aim of the study.

### **Pilot study:**

A pilot study was carried out on 37 nurses (10 % of study subjects) to test applicability, feasibility, practicability of the tools. In addition, to estimate the time required for filling in the questionnaire sheets. The pilot study was conducted one week before collection of data and staff nurses were selected randomly and they were excluded from the main study sample.

### **Field work description**

The collection phase lasted for two months from the beginning of August 2024 to the end of September 2024. The first phase of the work was a preparatory phase that was done by meeting with the staff nursing, each nurse was met individually or in group, got a full explanation about the aim of the study, and was invited to participate. The nurse who gave his /her verbal informed consent to participate was handed the self-administrated questionnaire and was instructed during the filling. The data were collected in the morning shift and afternoon shifts and night shift, the time used for the fulfillment of the self-administrated questionnaire ranged between 20- 30 minutes for each nurse according to the nurse's physical and mental readiness.

### **Statistical Design:**

All data were collected, tabulated and statistically analyzed using the IBM SPSS (Statistical Package for the social sciences) statistics for windows, version 23.0 IBM Corp., Armonk, NY: USA.. Quantitative data were expressed as the mean  $\pm$  SD & median (range), and qualitative data were expressed as absolute frequencies (number) & relative frequencies (percentage). Percent of categorical variables were compared using Chi-square test. Pearson's correlation coefficient was calculated to assess relationship between various study variables, (+) sign indicate direct correlation & (-) sign indicate inverse correlation, also values near to 1 indicate strong correlation & values near 0 indicate weak correlation. All tests were two sided. p-value < 0.05 was considered statistically significant, p and p-value  $\geq$  0.05 was considered statistically insignificant (NS).

### **Results:**

**Table (1):** Shows that mean age of all staff nurses was  $31.4 \pm 9.1$  ranged from 21 to 59 years old, 58% of them less than 30 years. The prominent gender was females, (74.0%), as regard marital status 27.8% of them single, 69.5 were married, widow represented 2.3% and divorced represented 0.5%. nursing diploma and technical institute, Bachelors educations were reported levels of education among staff nurses (29.3%, 67.5% and 3.3% respectively). The duration of experience was > 10 years for 36.3%, of staff nurses. According to department affiliated, the staff nurses distributed as follow: 20% new surgery hospital, 10.3% in el Salam hospital, 7% the out-patient clinic, the cardiac and chest, 13.3%, internal



medicine hospital, 18.8%, the pediatric hospital 8.8%, economic treatment 1.8%, delivery and premature 7.8%, finally 12.5% emergency department.

**Table (2) and Figure (1):** demonstrate that the highest score (73.5%) was related to green training and development domain, followed by Green job design score domain (71%), Green performance management domain (69.5%) and Green health and safety domain (62.25%). While lowest score (48.8%) was related to Green compensation management domain, followed by Green recruitment and selection domain (41.25%) and Green labour relation domain (40.25%).

**Figure (2):** Total level of Green human resource management practice as perceived by studied nurses: This figure illustrated that, the highest percent of the studied nurses (65%) rated GHRM practices in their workplace as high.

**Table (3)** shows that 46.8 % of the studied nurses were strongly agree that their company assesses who need training in environmental management, and delivers environmental management training to improve employee awareness, skills, and know-how in . Also 42.8% of the studied nurses were strongly agree that their company has integrated several environmental protection responsibilities in each position. While, 15.5% of the studied nurses were strongly disagree that their company practices the use of paperless recruitment and selection process.

**Table (4)** shows that, 42.5% of the staff nurses strongly agree that their company reinforces compliance of meeting environmental goals 37.8% of them were strongly agree about Offering green practices. while, 26.3% of them were strongly disagree that their company uses non-monetary rewards for contributions in environment management such as paid time off.

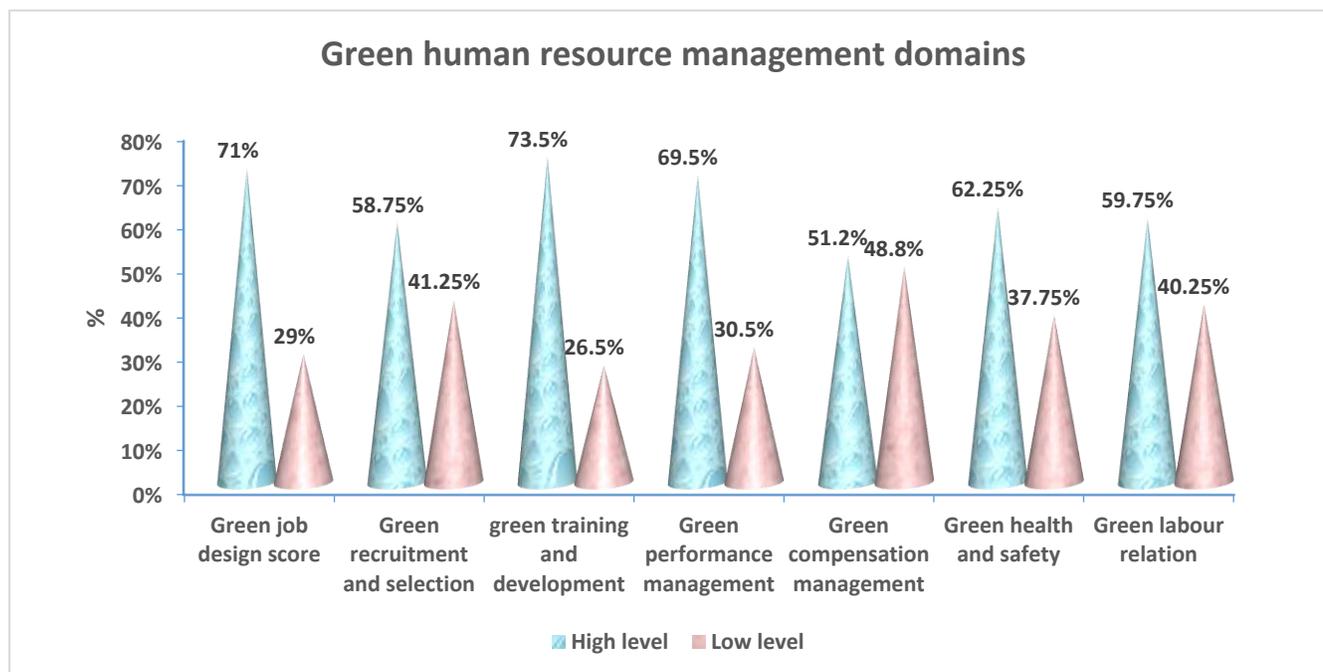
**Table (1):** Frequency and Percentage Distribution of the Staff nurse' According to Personal Characteristics, (n.400).

Personal Characteristics	n.	%
Age		
< 30 years	232	58.0
≥30 years	168	42.0
Mean ±SD	31.4±9.1	
Median(Range)	28(21-59)	
Gender		
Males	104	26.0
Females	296	74.0
Marital. Status		
Single	111	27.8
Married	278	69.5
Widow	9	2.3
Divorced	2	.5
Education		
nursing diploma	117	29.3
technical institute	270	67.5
Bachelors	13	3.3
Experience		
<5 years	150	37.5
5-10 years	105	26.3
>10 years	145	36.3
Department		
new surgery hospital	80	20.0
el salam	41	10.3
the out patient clinic	28	7.0
the cardiac and chest	53	13.3
internal medicine	75	18.8
the pediatric	35	8.8
economic treatment	7	1.8
Delivery and premature	31	7.8
Emergency	50	12.5



**Table (2):** Frequency Distribution of Green human resource management domains, among staff nurses (n. 400).

Domains of Green human resource management	Mean ±SD Median(range)	domains level			
		High		Low	
		n.	%	n.	%
Green job design score	15.6±3.8 16(4-20)	284	71%	116	29%
Green recruitment and selection	10.9±2.8 11(3-15)	235	58.75%	165	41.25%
green training and development	15.6±3.8 16(4-2)	294	73.5%	106	26.5%
Green performance management	22.3 ±5.5 23(6-30)	278	69.5%	122	30.5%
Green compensation management	16.1±6 17(5-25)	205	51.2%	195	48.8%
Green health and safety	10.9±3.5 12(3-15)	249	62.25%	151	37.75%
Green labour relation	10.9±3.2 12(3-15)	239	59.75%	161	40.25%



**Figure (1):** Green human resource management domains

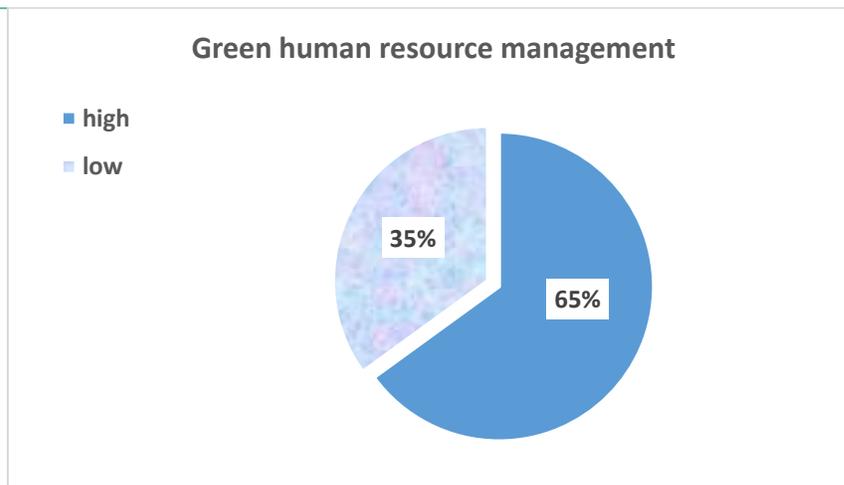


Figure (2) : Total level of Green human resource management practice among studied nurses

Table (3): Frequency Distribution of Green human resource management regarding Green job design , Green recruitment and selection, green training and development domains, among the studied nurses (n. 400).

Domains of Green human resource management	Strongly agree		agree		Neutral	disagree		Strongly disagree		
	N	%	N	%	n	%	N	%	N	%
<b>1-Green job design domain</b>										
My company has integrated several environmental protection responsibilities in each position	171	42.8	106	26.5	82	20.5	24	6.0	17	4.3
My company has included green and social needs of the company in job description and specification	149	37.3	128	32.0	69	17.3	32	8.0	22	5.5
My company has incorporated green capabilities as a distinctive element in job specification	155	38.8	107	26.8	74	18.5	44	11.0	20	5.0
My company has designed and executed innovative positions to emphasize on environmental protection aspects	165	41.3	107	26.8	70	17.5	35	8.8	23	5.8
<b>2-Green recruitment and selection domain</b>										
Our company has incorporated “green aware” criteria in HR staffing policy	154	38.5	119	29.8	85	21.3	25	6.3	17	4.3
My company practices the use of paperless recruitment and selection process	80	20.0	113	28.2	83	20.8	62	15.5	62	15.5
We appeal to green job applicants who practice green criteria choose employer (green employer branding).	149	37.3	108	27.0	78	19.5	28	7.0	37	9.3
<b>3-green training and development domain</b>										
My company assesses who need training in environmental management	187	46.8	93	23.3	57	14.2	39	9.8	24	6.0
My company evaluates whether the incumbent has manager and peer support to apply the learned content on the job	128	32.0	122	30.5	75	18.8	48	12.0	27	6.8
My organization uses environmental protection elements as the central themes of green training	168	42.0	104	26.0	80	20.0	32	8.0	16	4.0
My organization delivers environmental management training to improve employee awareness, skills, and know-how in environment management	187	46.8	96	24.0	70	17.5	29	7.2	18	4.5



**Table (4):** Frequency Distribution of Green human resource management regarding Green performance management , Green compensation management , Green health and safety , Green labour relations domains, among the studied nurses (n. 400).

Domains of Green human resource management	Strongly agree		Agree		Neutral		disagree		Strongly disagree	
	n	%	N	%	n	%	N	%	N	%
<b>4- Green performance management</b>										
Our company establishes green targets, objectives, and duties for each employee across organization.	148	37.0	102	25.5	80	20.0	32	8.0	38	9.5
In my company, there is communication of green goals.	138	34.5	132	33.0	77	19.3	29	7.2	24	6.0
The use of green criteria to evaluate performance	137	34.3	150	37.5	66	16.5	25	6.3	22	5.5
My company keeps track of non-compliance or not meeting green objectives.	132	33.0	111	27.8	75	18.8	44	11.0	38	9.5
My company reinforces compliance of meeting environmental goals	170	42.5	117	29.3	67	16.8	26	6.5	20	5.0
Identification of “Green Superstars” (remarkably talented individuals who perform beyond the standards) and distribution of prizes based on their green contributions	109	27.3	85	21.3	77	19.3	58	14.5	71	17.8
<b>5-Green compensation management domain</b>										
Our compensation system recognizes and rewards contributions in environmental protection.	108	27.0	76	19.0	76	19.0	73	18.3	67	16.8
My company rewards green skills acquisition	109	27.3	92	23.0	74	18.5	63	15.8	62	15.5
My company rewards for learning a green curricula.	120	30.0	85	21.3	84	21.0	56	14.0	55	13.8
My company uses non-monetary rewards for contributions in environment management such as paid time off, special leave , and gifts to employees and their families	77	19.3	81	20.3	67	16.8	70	17.5	105	26.3
My organization recognizes green initiatives of employees via organization wide publicity and public praise	104	26.0	98	24.5	80	20.0	55	13.8	63	15.8
<b>6-Green health and safety domain</b>										
My organization provides green workplace for all.	144	36.0	102	25.5	70	17.5	40	10.0	44	11.0
My organization takes green initiatives to decrease worker anxiety and work-related sickness instigated by harmful work setting	131	32.8	108	27.0	77	19.3	49	12.3	35	8.8
My organization develops and executes strategies to sustain a favorable work setting to avoid several fitness problems to develop health and safety of workforce	136	34.0	114	28.5	73	18.3	39	9.8	38	9.5
<b>7-Green labour relations domain</b>										
Our company emphasizes a culture of environmental protection. Offering green practices	148	37.0	110	27.5	85	21.3	37	9.3	20	5.0
My organization offers opportunities to individuals to take part in green suggestion schemes	101	25.3	113	28.2	90	22.5	53	13.3	43	10.8
My organization presents green whistle blowing and helplines	151	37.8	102	25.5	68	17.0	43	10.8	36	9.0



**Table(5):** Relation between Green human resource management level of 'staff nurse' and their personal characters (n.400)

Variables	Green human resource management				n.	$\chi^2$	p-value
	High level n.260		Low level n.140				
	No.	%	No.	%			
Age groups							
<30	142	61.2	90	38.8	232	3.49	0.062
≥30	118	70.2	50	29.8	168		
Gender						9.068	0.003*
Male	55	52.9	49	47.1	104		
Female	205	69.3	91	30.7	296		
Marital Status						12.592	0.006*
Single	58	52.3	53	47.7	111		
Married	195	70.1	83	29.9	278		
Widow	5	55.6	4	44.4	9		
Divorced	2	100.0	0	.0	2		
Education						1.89	0.39
nursing diploma	80	68.4	37	31.6	117		
Technical I institute	170	63.0	100	37.0	270		
nursing Bachelors	10	76.9	3	23.1	13		
Experience						5.18	0.08
<5 years	87	58.0	63	42.0	150		
5-10 years	73	69.5	32	30.5	105		
>10 years	100	69.0	45	31.0	145		
Department						16.89	0.03*
New surgery hospital	62	77.5	18	22.5	80		
el salam	28	68.3	13	31.7	41		
the out patient	14	50.0	14	50.0	28		
the cardiac and chest	32	60.4	21	39.6	53		
internal medicine	46	61.3	29	38.7	75		
the pediatric	28	80.0	7	20.0	35		
economic treatment	5	71.4	2	28.6	7		
Delivery and premature	19	61.3	12	38.7	31		
Emergency	26	52.0	24	48.0	50		

**Discussion:**

The healthcare sector is increasingly recognizing the importance of sustainability, not only in clinical practices but also in organizational management. Green Human Resource Management (GHRM) has emerged as a key strategy to integrate environmental consciousness into HR policies, fostering eco-friendly workplace behaviors while enhancing employee engagement (Khan et al., 2025). In nursing administration, where workforce efficiency and retention are critical, GHRM practices can play a pivotal role in shaping nurses' attitudes and behaviors. However, the extent to which GHRM influences Innovative Work Behavior (IWB) and Affective Commitment (AC) among nurses remains underexplored, particularly in academic hospital settings like Zagazig University Hospitals (Abdelrahman et al., 2023).

Nurses operate in a dynamic and demanding environment where innovation and commitment are crucial for delivering high-quality healthcare. While prior research has examined GHRM in corporate settings, its application in nursing administration especially its impact on fostering creativity and loyalty among



nurses requires further investigation (Algarbar et al., 2023). This study aimed to assess green human resource management practice as perceived by nurses at zagazig university hospital

#### **Personal characteristics of the studied staff nurses.**

In the current study, the sample consisted of 400 staff nurses working at Zagazig University hospitals; the studied nurses' age was ranged from 21 to 59 years old and more than half of them were less than 30 years. From the research investigator point of view, this could be due to the fact that this age range lies within the productive age in the workforce in the hospital.

This finding aligns with Saleh et al. (2024), who conducted a study in Egypt on appreciative leadership, workplace belongingness, and affective commitment among nurses, and found that younger nurses less than 30 years old constituted a majority. Conversely, a study by El-Gazar et al. (2023) in Egypt, which investigated the effect of job crafting intervention programs on harmonious work passion and career commitment among nurses, reported that a considerable proportion of nurses were above 40 years old. Additionally, the current study revealed that the predominant gender among the studied nurses was female. This aligns with findings from a study conducted by Eweida et al. (2025), which reported that the nursing profession in Egypt is predominantly female, with women constituting the majority of the nursing workforce. This reflects the traditionally female-dominated nature of the nursing profession in the country. Furthermore, more than two-thirds of the participants in the current study were married, a demographic characteristic commonly observed among nursing professionals in Egypt. Likewise, a study carried out by Ibrahim et al. (2024) in Egypt, who studied relation between leadership competencies and innovative work behavior of nurses, and found that the largest proportion of nurses were females and married.

Moreover, the current study showed that more than two-thirds of the studied nurses had technical institute education. This finding aligns with a study conducted by Abdelrahman et al. (2023) in Egypt, entitled "The Role of Green Human Resource Management Practices in Achieving Sustainable Development in the Hospital from Nurses' Perspective," which reported that the majority of the study subjects held technical nursing qualifications. In contrast, El-Gazar and Zoromba (2021) who carried out a study in Egypt to assess nursing human resource practices and hospitals' performance excellence, and reported that the highest proportion of the studied nurses had bachelor-educated.

Moreover, the current study showed that more than one-third of the studied nurses had over 10 years of experience, and one-fifth were affiliated with the new surgery hospital department. This finding aligns with a study conducted by Atalla et al. (2025) at Alexandria Main University Hospital, which reported that a significant portion of nurses had more than 10 years of nursing experience. In the opposite line, Abdelrahman et al. (2023) in Egypt, who conducted a study about the role of Green human resource management practices in achieving sustainable development in the hospital from nurses' perspective, and found that the highest percentage of the studied nurses had from 5 to less than 10 years of experience, emergency and outpatient clinics had higher nurse concentration.

#### **Green human resource management.**

Regarding total green human resource management practice, the current study revealed that almost two thirds of the studied staff nurses rated green human resource management practice in their workplace as high. This outcome, from the researchers' perspective, may be attributed to the growing national emphasis on environmental sustainability within the healthcare sector. The General Authority for Healthcare Accreditation and Regulation (GAHAR), under the standards of environmental and facility safety, emphasizes the importance of integrating sustainability and eco-friendly practices into healthcare institutions. According to GAHAR (2025), healthcare organizations are encouraged to adopt green policies, including effective waste management, reducing carbon emissions, and promoting sustainable infrastructure. These national guidelines and accreditations may have driven healthcare facilities to implement greener human resource strategies, such as staff training on environmental safety, inclusion of sustainability in job roles, and encouraging eco-conscious behavior among employees. Hence, the high perception of green HRM practices among nurses could reflect the alignment of institutional efforts with national regulatory standards aimed at fostering a safe, sustainable, and efficient healthcare



environment.

The hospital provide training programs which include an interest in developing green leadership methods for leaders to implement green human resource management strategies which are the core of hospital development nowadays. GHRMS can encourage employees' commitment and involvement in environmental practices. These environmentally friendly practices can therefore help the organization to develop a good reputation, reduce the pressure from clients, and benefit future generations in the long run.

The finding of the present study was parallel with **Saaeb and Al-Saidi (2021)** who carried out a study about the practical reality of Green Human Resources Management strategies in Turkey and concluded that there was a high perception of the intellectual and theoretical foundations of green human resources management strategies in research sample. In this concern, **El-Gazar and Zoromba (2021)** who conducted a study in Egypt to investigate the effect of nurses' perceptions of HRP on achieving hospitals' performance excellence through the mediating role of nurses' job performance, mentioned that studied nurses reported more satisfaction with GHRMS had higher levels of psychological wellbeing and exert greater effort to be innovative in the workplace.

Likewise, **Abd-elmonem et al., (2022)** who studied the relation between green human resource management strategies and organizational innovativeness among head nurses in Egypt, and explained that slightly more than two thirds of head nurses had high perception level toward green human resource management strategies. This result was contradicted with **Mamdouh and Samir (2022)** who conducted a study in Egypt to determine the relation between human resource management practices and nurses' innovative work behavior , moderating role of eudaimonic well-being as they found in their study that more than two thirds of the participants had a moderate perception level regarding HRMS.

Also, the present study results were inconsistent with that of **Allam and Mansour (2024)** who conducted a study to explores the role of green human resource management (GHRM) practices in improving the sustainable performance of Egyptian private hospitals. The findings showed that GHRM is applied at a moderate level in Egyptian private hospitals; this indicates that the medical sector still needs to pay attention to adapt green practices and preserve the environment and its resources. Moreover, this result was different from **Abdelrahman et al., (2023)** who studied the role of Green Human Resource Management practices in achieving sustainable development in the hospital from nurses' perspective in Egypt, and reported that nearly two thirds of the hospital nurses confirmed that their hospital displayed a low level of green human resource management practices.

As regard green human resource management domains, among staff nurses, the current study indicated that the highest score was related to green training and development domain, followed by scores of green job design domain, green performance management domain and green health and safety domain. While, the lowest score was related to domain of green compensation management, followed by green recruitment and selection domain and green labour relation domain. This may be due to the increasing emphasis on sustainability training and professional development in healthcare institutions, leading to higher awareness and engagement in green training and development among staff nurses.

The relatively high score in green job design could be attributed to the integration of environmentally friendly practices into daily nursing tasks, making it tangible and actionable domain. This result was supported by **Ismail et al., (2024)** whose study in Egypt aimed to analyze the effectiveness of implementing green management program on nursing staff knowledge, attitudes, and green management practices towards occupational safety, and stated that green training and development domain of green human resource management had the highest mean score as reported by the studied nurses.

In the same scene, a study conducted by **Mensah et al., (2023)** about green human resource management practices and employee innovative behavior in Ghana and pointed out that majority of the respondents stated that their organization occasionally considered green training, with the highest mean score. Similarly, a study conducted by **Javed et al., (2020)** to assess green human resource management practices and organizational sustainability performance in Pakistan's healthcare sector, and reported that



green training and development domain possessed the highest mean score compared to other domains of green human resource management.

In contrast, results of study performed by **Mohammed et al., (2023)**, about effect of green management training program on nursing managers' perception of occupational safety and green management practices in Egypt, and found that waste reduction and management domain had the highest mean score followed by green performance management domain, while the lowest mean score was for green recruitment and selection domain. Also, a study was congruent with the present study finding, conducted by **Abdelrahman et al., (2023)** who reported that green recruitment and selection domain of green human resource management practice had the highest mean score, while green rewards and compensation domain had the lowest as reported by nurses.

Regarding relation between green human resource management level of staff nurse' and their personal characters, the present study indicated that there was statistically significant relation between green human resource management level and staff nurses' gender, marital status and department. This can be interpreted as female, divorced, also staff nurses who affiliated to the pediatric department had significantly higher level of green human resource management than others. This may be due to the fact that those nurses may exhibit higher sensitivity and commitment toward environmentally responsible practices, which are key components of green human resource management.

The result of the present study was in agreement with El-Kassar, et al., (2022) who conducted a study in Lebanon, entitled "Antecedents and consequences of knowledge hiding: The roles of HR practices, organizational support for creativity, creativity, innovative work behavior, and task performance" reported in their study that there were statistically significant associations between participants' perception of HRM climate and gender, and department.

On the other hand, a study carried out by Mensah et al., (2023) who noticed that there was statistically significant relation between total nurses' perception levels of green human resource management strategies and their gender, while there was no statistically significant difference between total perception levels and all other personal data. Conversely, a study performed by Abdelrahman et al., (2023) who found that statistically significant differences between nurses' age and the level of GHRM practices in the hospital, as well as their qualifications, which can impact their perspectives on GHRM practices within the hospital.

### Conclusion

Based on the results of the present study, the following can be concluded, more than half of the studied nurses rated Green human resource management practice in their workplace as high .

### Recommendations

In the light of the findings obtained from the present study, the following points are recommended:

1. **Develop ongoing in-service training programs** to enhance staff knowledge and awareness regarding GHRM, its environmental impact, and its role in fostering a sustainable and innovative workplace.
2. **Design recognition and reward systems** that emphasize green behaviors and innovation, including both monetary and non-monetary incentives to reinforce environmental responsibility
3. **Empower nurse managers and leaders** through workshops focused on promoting green HR practices and cultivating affective commitment among team members.
4. **Ensure equity and inclusivity** in the implementation of GHRM policies regardless of gender, age, marital status, or educational background, as these were significantly related to the outcomes.

### Further Research

1. Further studies should explore **interventional strategies** to enhance GHRM practices and their direct impact on nurses' innovation and commitment over time using longitudinal designs.

Additional qualitative research is needed to gain **in-depth understanding** of nurses' lived experiences and perceptions regarding green HRM, workplace innovation, and commitment



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