

The Role of Green Human Resource Management Practices in Achieving Sustainable Development in the Hospital from Nurses' Perspective

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Abstract: Background: Green human resource management entails changing human resource management's culture, structure, strategy, and regulations on health to promote environmental sustainability. That contributes towards the sustainable development of organizations. **Purpose:** To assess the role of green human resource management practices in achieving sustainable development in the hospital nurse' perspective. **Research design:** A descriptive correlational study. It was conducted at Suez General Hospital. **Sample:** A convenient sample of 260 nurses. **Instruments:** Two instruments were used to collect data; the Green Human Resource Management Practices Questionnaire and the Sustainability Development Questionnaire. **Results:** 64.2% of the hospital nurses confirmed that their hospital displayed a low level of green human resource management practices and a 50.4% of them verified that their hospital display a moderate level of sustainable development. **Conclusion:** The study revealed a strong positive significant correlation between green human resource management practices and achieving sustainable development in the hospital. **Recommendation:** Hospitals need to encourage environmental culture at both the individual and organizational levels to develop green-minded workers and establish a culture of sustainability.

Keywords: *Environmental Sustainability, Green Human Resource Management, Nurses, Sustainable Development, Practices.*

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Introduction

Human resources are undeniably an organization's most valuable asset, with a crucial role in employee management. Today, Human resources managers also shoulder the responsibility of integrating the green human resources concept into the organization's mission statement and policies (Ahmad, 2015). Worldwide, numerous organizations have initiated a revolutionary campaign known as green human resources management (GHRM). In this era of industrial advancement, GHRM is being embraced to foster an environmentally friendly organizational culture, ultimately reducing environmental impacts (Amjad & Nor, 2020; Awan et al., 2021; Soomro et al., 2021).

Tang et al. (2018) highlighted the facets of GHRM, encompassing green recruitment and selection, training, performance management, compensation, and involvement. Green recruitment emphasizes selecting employees with environmental awareness and a commitment to workplace safety. Green training involves developing programs to enhance employees' skills in workplace safety and environmental awareness. Maskuroh et al. (2023) add that regarding green compensation and rewards, organizations need to establish an effective incentive system that promotes safe workplace practices and environmental conservation. Green involvement necessitates establishing clear policies for workplace safety and environmental preservation, conducting regular safety meetings, and promoting safe work practices through leadership examples. Strong leadership support is crucial for implementing and improving safe workplace behaviors.

GHRM practices have emerged due to increased environmental awareness in

organizations, fostering an attractive organizational image that motivates and engages employees. These practices instill pride and values in the workforce, resulting in a deeper sense of psychological ownership, which can lead to increased engagement (Baykal & Bayraktar, 2022). Policymakers should prioritize human resource productivity, green business, and environmental protection (Soomro et al., 2021). Implementing GHRM practices enhances employee performance and commitment to environmental efficiency, contributing to sustainable organizational development (Baykal & Bayraktar, 2022).

Due to the link between human health and environmental health, hospitals have a responsibility to improve human health by recognizing and resolving their environmental consequences (Carino et al., 2020). GHRM adopts an environmental approach, aiming to create a green work environment that encourages employees to do their tasks in the most environmentally responsible possible way (Pham et al., 2020). In healthcare organizations, setting new goals for sustainable practices aims to enhance financial performance while preserving social and natural capital. Sustaining a reliable and long-lasting healthcare system assists countries in achieving long-term competitiveness goals (Meiling et al., 2021).

GHRM emphasizes environmentally conscious people management (Gomes et al., 2023). It involves adopting eco-friendly approaches in organizational policies and processes, resulting in various benefits such as increased efficiency, cost savings, staff retention, and improved productivity (Ahmad, 2015; Faisal, 2023). GHRM initiatives significantly impact both professional

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and personal aspects, fostering environmental awareness, information exchange, and social responsibility among employees. This approach also encourages engagement in environmentally friendly activities (Sabokro et al., 2021).

Sustainability is an emerging multidisciplinary field, and sustainable urban development deals with socioeconomic, cultural, and environmental aspects. Urban centers serve as the primary focus of sustainable development, thus making sustainability one of the most significant concerns in urban planning (Robati & Rezaei, 2022). It is an amalgamation of initiatives centered around three core components: environmental, social, and economic. The implementation of sustainable development extends from the pursuit of quality of life to environmental balance to break with the present pattern of development (Maynard et al., 2020; Rodríguez et al., 2020).

The burden of social problems in hospitals is primarily placed on employees who work extended hours in a work environment that imposes high levels of physical and psychological stress. These qualities have a detrimental influence on personnel health and safety, as well as patient care quality (Duque-Urbe et al., 2019). In the context of sustainable development, social sustainability is a crucial aspect that encompasses both individuals and the environment. The use of social sustainability handprints facilitates the promotion of social sustainability management and assessment, as well as the encouragement of behaviors that contribute to overall social sustainability (Husgafvel, 2021).

Hospitals are under intense pressure to save costs, enhance operational efficiency, and sustain their service

capacity (Lennox et al., 2018). To effectively manage hospitals, the economic dimension of organizational sustainability must be considered. This involves developing policies and strategies that enhance the value of goods and services provided, optimize processes, conquer new markets, and generate sustainable financial returns on investments (Mousa & Othman, 2020). The procedures and services offered by hospitals require a significant amount of material, energy, and water resources, resulting in the generation of substantial waste (Duque-Urbe et al., 2019). To achieve environmental sustainability in hospitals, the environmental aspect of organization sustainability may be applied through the utilization of renewable resources and the implementation of policies to mitigate their environmental impact (De Oliveira et al., 2021).

In the construction of "Green Hospitals," sustainable development principles are utilized to encourage energy and cost savings, enhance services, and provide a conducive working environment. Such hospitals can yield several advantages, including energy conservation, environmental protection, enhanced services, building restoration, and financial resource efficiency (Gerali et al., 2015).

Significant of the study:

Sustainability doesn't not only focus on more than just natural resource activities but also human resources. GHRM strengthens sustainable environmental practices and increases employee commitment to ecological issues through human resource management. This can be addressed by a cross-functional distribution of green ideologies, as suggested by (Dost et al., 2019). Researchers investigated how green management should be applied to human resources (Roscoe et al.,

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2019). However, few attempts have been made to explore the link between GHRM and sustainability (Paulraj, 2011; Zaid et al., 2018).

Aim of the study:

To assess the role of green human resource management practices in achieving sustainable development in the hospital from nurses' perspective. Through the following objectives:

- Identifying the level to which GHRM procedures are implemented in the hospital.
- Identifying the hospital's level of sustainable development.
- Finding the relationship between GHRM practices and hospital sustainability.

Methods

Design:

A correlation descriptive design was conducted.

Setting:

The study was carried out at Suez General Hospital, encompassing five distinct buildings. The first building consists of various departments, including emergency surgery, outpatient clinics, obstetrics and gynecology, surgery and neurosurgery, orthopedics, burns, children's inpatient wards, pediatric intensive care, and neonatal intensive care unit. The second building consists of intensive care unit and kidney dialysis departments. The third building accommodates the Cardiac Catheterization Care unit, cardiac catheterization operating theaters, and other kidney-related departments. The fourth building consists of the internal emergency section, internal medicine departments, endoscopy, and laparoscopic operation departments. Finally, the fifth building consists of ophthalmic operations,

ophthalmology clinics, emergency clinics, and pediatric clinics.

Subject:

A convenient sample of nurses working in the previously described setting (260 nurses engaged in the study) were included.

The sample size:

The study's sample size was determined using the following formula

$$n = \frac{N \times p(1-p)}{\left[\frac{N-1}{d^2} \div z^2 \right] + p(1-p)}$$

Where n represents the necessary sample size (235), N is the target population size (600), Z is the degree of confidence required at 95 per cent (1.96), d is the permissible error rate (0.05), and p is the estimated probability (50%). After adding 10% dropout, the required sample size was 259 nurses. The study ultimately engaged 260 nurses to participate.

Instruments:

Data was collected using the two self-reported instruments listed below:

Instrument one: Green human resources management practices questionnaire

The researcher adapted it from Tang et al. (2018) to assess the hospital's GHRM practices from nurses' perspective. It was divided into two parts:

- **Part one:** It contained characteristics of nurses such as age,

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gender, marital status, nursing qualification, and years of experience.

▪ **Part two:** It contained 30 items that were categorized into five areas: green recruitment and selection, green training, green performance appraisal, green rewards and compensation, and energy saving.

Scoring System:

Nurses' respondents utilized a five-point Likert scale, with 5 indicating the highest agreement and 1 representing the weakest. The scale's total score ranged from 30 to 150, with 30 representing the lowest GHRM practice level and 150 indicating the highest. The ratings were converted into percentages to categorize GHRM practices as "High" ($\geq 75\%$), "Moderate" ($60\% < 75\%$), or "Low" ($< 60\%$).

Instrument two: Sustainable development questionnaire:

The investigator adapted it from (Ali et al., 2021) to assess the hospital's sustainable development from nurses' perspective. The instrument included 15 items that were categorized into three areas: environmental, economic, and social.

Scoring System:

Nurses' responses were assessed using a 5-point Likert scale, with 5 indicating the highest agreement and 1 representing the weakest. The total score for the scale was between 15 and 75, with 15 as the minimum score and 75 as the maximum. Ratings were transformed into percentages to categorize the levels of sustainable development as "High" ($\geq 75\%$), "Moderate" ($60\% < 75\%$), or "Low" ($< 60\%$).

Validity:

A bilingual panel of five specialists tested the instruments' content and face validity. They were asked to

assess the instruments as a whole, looking for areas of concern and reviewing their structure, clarity, and grammar. The panel considered criteria such as relevance to the study's purpose, clarity of research questions, ease of understanding, comprehensiveness, question length, order, impartiality, and redundancy. Necessary modifications were made, resulting in a valid version of the instruments approved by the experts.

Reliability:

The GHRM Practices Questionnaire scored a reliability of 0.940 based on the internal consistency coefficient alpha, while the Sustainable Development Questionnaire scored 0.923.

Pilot study

A pilot study was conducted to evaluate the clarity and time of completion of the instruments. The pilot trial involved 30 nurses. These nurses were not included in the research sample.

Ethical considerations

Before participating in the study, the nurses were asked to thoroughly review an informed consent document, which included the following details: a declaration that their responses would not burden them, assurance that they would be kept confidential, and a brief overview of the study and its purpose. The participants were informed that they could withdraw from the study at any time. The study was approved by the institution's research ethics committee with the permission number (5139-12/2022).

Procedure:

Official permission was obtained from hospital administrators to conduct the study in their hospital. The

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researchers described the purpose of the study, methods of data collection and how to answer questions in each instrument. Once the nurses agreed to participate, they received an envelope containing the survey. The first page of the questionnaire stated the purpose of the study and emphasized that all nurses' responses were optional. The data was then gathered using self-reported questionnaires. And it took 15 to 20 minutes to complete the instruments. The data were collected daily during morning, evening, and night shifts. Guidance and instructions were given to every nurse, either individually or in small groups, during data collection. The data collection lasted for two months, starting from first-January to first- March.

Statistical analysis

The data analysis was conducted using IBM SPSS Statistics version 26. The demographic information of the participants was presented as frequency and percentage. The GHRM practices and sustainable development data were described using mean and standard deviation. The homogeneity of the data was evaluated utilizing the Kolmogorov-Smirnov test. Non-parametric tests such as the Mann-Whitney, Kruskal-Wallis, and Spearman's correlation were employed for data analysis. The significance level and confidence interval were set at 0.05 and 95%, respectively.

Results

Table 1 illustrates the characteristics of nurses examined in this research. Predominantly, the study participants were female (79.6%) and married

(84.2%). Nearly half (49.6%) were under 30 years old, and about two-thirds (66.5%) held a nursing technician degree. Experience-years, more than one-fourth (27.7%) of nurses had from 5 to 10 years of professional experience.

Table 2 displays that the hospital exhibited a low level of GHRM practices with a mean score of 84.096. Similarly, the hospital demonstrated a moderate level of sustainable development, having a mean score of 43.611.

As shown in **Figure 1**, nearly two-thirds of the participants (64.2%) perceived low GHRM practices within the hospital, while over half (50.4%) reported moderate levels of sustainable development.

Table 3 highlights 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.

Table 4 indicates that there was a statistically significant differences between nurses' age and the level of the hospital sustainability, as well as their qualifications, which can impact their perspectives on the hospital sustainability.

As per the results presented in **Table 5**, the study revealed a significant positive correlation ($r = .798$, $p < 0.01$) between GHRM practices and sustainable development. Additionally, significant relationships were observed among various dimensions of GHRM practices and sustainable development in the hospital

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Table 1. Distribution of the participated nurses' characteristics (N=260).

Characteristics:	No.	%
Age (Years):		
<30	129	49.6
30–40	103	39.6
>40	28	10.8
Gender:		
Male	53	20.4
Female	207	79.6
Marital status:		
Unmarried	41	15.8
Married	219	84.2
Nursing qualification		
Diploma	47	18.1
Associate	173	66.5
Bachelor	34	13.1
Postgraduate	6	2.3
Experience (years)		
<5	62	23.8
5–10	72	27.7
<10-15	64	24.6
>15	62	23.8

Table 2. Mean and standard Deviation of GHRM Practices and Sustainable Development Dimensions from nurses' perspective (N = 260).

Item	X	SD
GHRM Practices		
Green recruitment and selection	20.419	4.148
Green training	19.846	3.543
Green performance appraisal	16.461	2.411
Green rewards and compensation	11.111	2.852
Energy saving	16.257	4.433
Sustainable Development		
Environmental	14.561	3.228
Economic	14.619	3.657
Social	14.430	3.534

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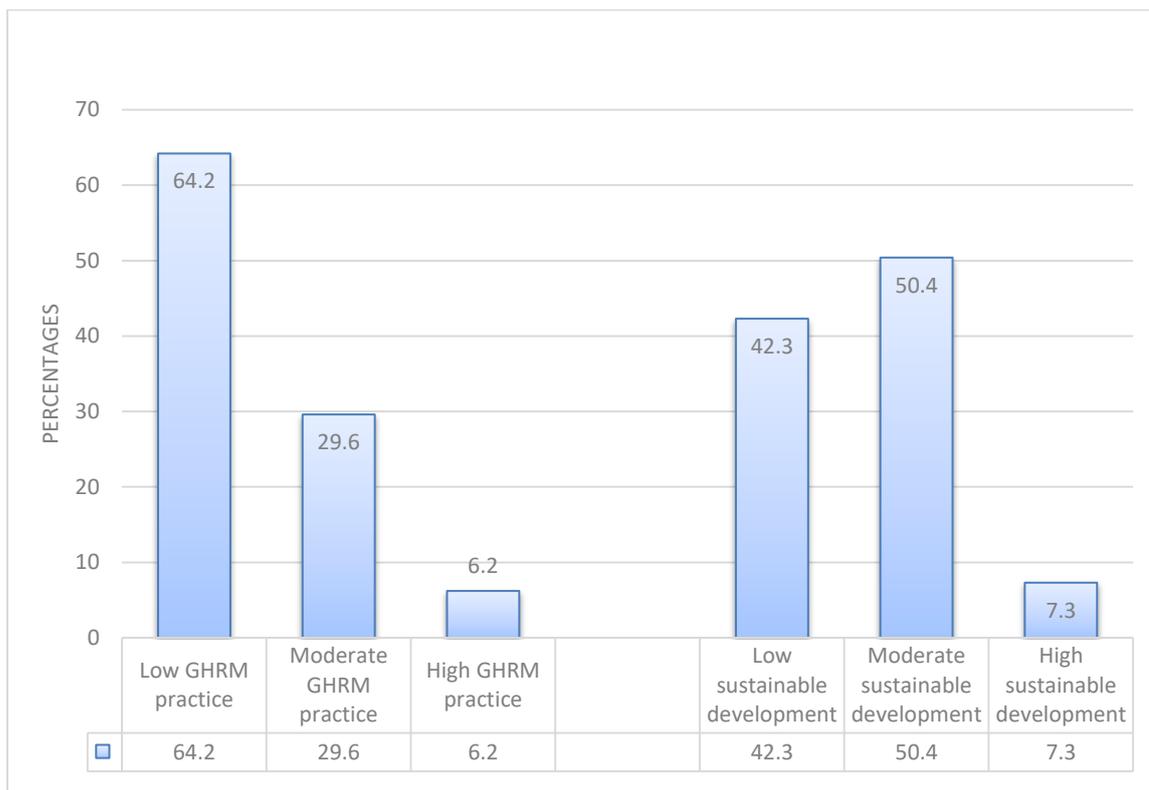


Figure 1. Distribution of GHRM Practices and Sustainable Development Levels from Nurses' Perspective (N =260).

Table 3. Differences between nurses' perception of GHRM Practices levels and their characteristics (N = 260).

Characteristic	Category	GHRM Practices						H/U	P -Value
		Low (n=167)		Moderate (n=46)		High (n=16)			
		No.	%	No.	%	No.	%		
Age (years) ^a	<30	73	43.7	46	59.7	10	62.5	13.95	.001*
	30-40	66	39.5	31	40.3	6	37.5		
	>40	28	16.8	0	0.0	0	0.0		
Gender ^b	Male	40	24.0	12	15.6	1	6.3	4873.50	0.208
	Female	127	76.0	65	84.4	15	93.8		
Marital status ^b	Unmarried	27	16.2	10	13.0	4	25.0	4433.00	0.898
	Married	140	83.8	67	87.0	12	75.0		
Nursing qualification ^a	Diploma	41	24.6	4	5.2	2	12.5	27.18	.000*
	Associate	91	54.5	69	89.6	13	81.3		
	Bachelor	29	17.4	4	5.2	1	6.3		
	Postgraduate	6	3.6	0	0.0	0	0.0		
Experience (years) ^a	<5	41	24.6	17	22.1	4	25.0	6.88	.076
	5-10	37	22.2	29	37.7	6	37.5		
	<10-15	40	24.0	23	29.9	1	6.3		
	>15	49	29.3	8	10.4	5	31.3		

^a Kruskal Wallis test (H-test)
0.05

^b Mann Whitney test (U-test)

*P <

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Table 4. Differences between nurses' perception of sustainable development levels and characteristics (N = 260).

Characteristic	Category	sustainable development						H/U	P -Value
		Low (n=110)		Moderate (n=131)		High (n=19)			
		No.	%	No.	%	No.	%		
Age (years) ^a	<30	42	38.2	78	59.5	9	47.4	6.40	0.041*
	30-40	48	43.6	49	37.4	6	31.6		
	>40	20	18.2	4	3.1	4	21.1		
Gender ^b	Male	24	21.8	22	16.8	7	36.8	5291.50	0.690
	Female	86	78.2	109	83.2	12	63.2		
Marital status ^b	Unmarried	16	14.5	22	16.8	3	15.8	4381.00	0.805
	Married	94	85.5	109	83.2	16	84.2		
Nursing qualification ^a	Diploma	31	28.2	12	9.2	4	21.1	13.16	0.004*
	Associate	53	48.2	108	82.4	12	63.2		
	Bachelor	20	18.2	11	8.4	3	15.8		
	Postgraduate	6	5.5	0	0.00	0	0.00		
Experience (years) ^a	<5	22	20.0	33	25.2	7	36.8	4.40	0.221
	5-10	25	22.7	45	34.4	2	10.5		
	<10-15	25	22.7	34	26.0	5	26.3		
	>15	38	34.5	19	14.5	5	26.3		

^a Kruskal Wallis test (H-test)
0.05

^b Mann Whitney test (U-test)

*P <

Table 5. Correlation Coefficient between GHRM Practices dimensions and Sustainable Development (N =260).

Items	Sustainable Development	
	r	P
• Green Human Resources Management Practices	.798*	.000
• Green recruitment and selection	.754*	.000
• Green training	.746*	.000
• Green performance appraisal	.320*	.000
• Green rewards and compensation	.801*	.000
• Energy saving	.299*	.000

* Correlation is significant at P < 0.05.

Discussion

Notably, numerous studies have stated that GHRM is an expansion of human resources management in developing an environmentally friendly business. In any organization, human resources play a crucial role. It is, therefore, possible for it to play an important role in complex environmental management activities (Marditama et

al., 2021; Veerasamy et al., 2023), both of which are significant competitive elements (Al-Ghazali & Afsar, 2021). Further, organizations that operate in highly competitive and regulated environments should balance their economic, social, and environmental performance (Renwick et al., 2013). These findings highlight the urgent

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need for further research and understanding of the role of GHRM practices in achieving sustainable development in hospitals.

Results of the current study displayed those significant differences between participants' ages and their nursing qualifications affected nurses' opinions regarding GHRM practices in achieving sustainable development. This finding is aligned with Bombiak and Marciniuk-Kluska (2018), who stated that for the implementation of the GHRM concept in organizations, it is necessary to raise awareness of GHRM and disseminate knowledge about it among employees, regardless of their age or level of education.

The current study also showed that a low level of GHRM practices with moderate levels of sustainable development within the studied hospital. These results are in congruence with the results of Karim et al. (2022), who found that GHRM is being implemented moderately in Bangladesh's healthcare industry, and Rawashdeh (2018), who stated that a moderate implementation of GHRM in Jordanian hospitals. On the other hand, Pinzone et al (2019) stated that organizations need to improve employees' green service behaviors green training challenges and motivates employees to engage in environmentally oriented activities.. This is not an automatic process, but the exchange of green knowledge must be carried out (Rubel et al., 2021). While Liu et al (2021) showed that GHRM has a positive impact on the environmental behaviors of an organization's employees and that a green organizational identity plays an important role in achieving environmental goals and gaining competitive advantages for the organization.

Ultimately, the study's findings expand the human resources management literature by providing further evidence that GHRM is essential for promoting hospital sustainability. In this sense, the study discovered a strong positive significant correlation between GHRM practices and sustainable development. Similarly, the study's results revealed that five GHRM practices tested in the study have a strong positive significant correlation with sustainable development. These findings are consistent with those of Hmeedat and Albdareen (2022) whose results also indicate that the use of GHRM practices plays a positive role in improving sustainable performance. While Gholami et al (2016) stated that GHRM is an important system to promote the implementation of a clean sustainability strategy in the organization, positively increased employee well-being and improved long-term organizational performance.

Conclusion:

This study provided additional knowledge related to nursing about GHRM practices and the hospital's sustainable development. There is a strong positive significant correlation between GHRM practices and sustainable development within the hospital. The hospital displayed a low level of GHRM practices with a moderate level of sustainable development within the hospital from nurses' perspective.

Recommendations:

The study recommends that the hospitals aspiring to gain a competitive edge through sustainability should emphasize several key focal points. This includes prioritizing green training, investing in human resource development, and establishing a robust system for monitoring and evaluating employee performance. Furthermore,

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creating an environmental culture at both individual and organizational levels is crucial to instilling a green mindset among employees. Senior management's commitment to sustainability is vital, and it is recommended to establish a culture of sustainability as a primary strategic goal within the organization.

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