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Data Article

Dataset on the knowledge, attitude, and practices of biomedical waste management among Tehran hospital's healthcare personnel



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ABSTRACT

The data of this research was the investigation of knowledge, attitude and practices of biomedical waste management among healthcare staff and performed in some general hospitals in Tehran, Iran. In this descriptive data, 162 participants were chosen according to stratified sampling method and a self-made questionnaire was used for data collection. Also, Kruskal-wallis test, Mann -Whitney *U* tests and Spearman correlation coefficient were used to analyze the data in R software, version 3.4.4. The weighted mean of data showed that the knowledge level in staff is "Low" and their activity level is "Moderate". Also, the data of the statistical analysis revealed that there is no significant difference between male and female health care personnel in knowledge, attitude and practices. However, the results of Kruskal-Wallis test showed that there was no significant difference between the views of hospital staff in occupational and educational groups about knowledge and attitude and their relationship with the history of passing the health course, while the difference in practices level

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was significant ($P < 0.0001$). Furthermore, the relation between attitude and practices level of participants with different work experience were not significant.

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Specifications Table

Subject area	Environmental Health Science
More specific subject area	Waste Management
Type of data	Table
How data was acquired	Data were collected by questionnaire
Data format	Raw, Analyzed
Experimental factors	The factors mentioned in the abstract were evaluated according to the completed questionnaires.
Experimental features	The researcher-made questionnaire, which contained data on Knowledge, Attitude, and Practices of Biomedical waste management among Healthcare Personnel were completed
Data source location	Tehran hospitals, Iran
Data accessibility	The data are available with this article

Value of the data

- The data showed a statistically significant positive relationship between Knowledge and years of service.
- The data is useful in showing that staff training is one of the fundamental ingredients in the field of proper management of biomedical waste.
- The data of the statistical analysis from this research can be useful as it indicates that it is necessary to hold some training course about biomedical waste management by relevant experts.

1. Data

Descriptive statistics related to the demographic information of the working personnel of case study hospitals were shown in [Table 1](#). The data of Kruskal-Wallis test to compare the knowledge, attitude and practice of hospital staff regarding the management of hospital waste disposal in occupational groups was shown in [Tables 2](#) and [3](#). Also, [Tables 4](#) and [5](#) shows the data of the Mann-Whitney U test about the difference between the groups about the practices of hospital staff regarding the waste disposal management in occupational groups. Also, [Table 6](#) shows the relationship between working personnel age, years of service and passing the health course with knowledge, attitude and practices. However, compare the range of scores for each field was shown in [Table 7](#).

2. Experimental design, materials and methods

This survey-descriptive study was carried out in 5 university hospitals of Tehran to investigate knowledge, attitude and practices of healthcare staff on the appropriate handling and management of health care waste (HCW). 162 participants of personnel working in the wards of Tehran hospitals: doctors, nurses and service personnel participated in this study and the questionnaire was completed by them. The questionnaire included demographic questions: 10 questions about knowledge,

Table 1

Descriptive statistics related to the demographic information of the healthcare personnel.

Variable name	Variable grouping	Knowledge level N (%)	Attitude rate N (%)	Behavior rate N (%)	Sum	X ²	DF	p
Age(year)	21–31	59(% 52.8)	59 (% 52.7)	59(%52.7)	177(%52.4)	0.000	2	1
	31–41	32 (% 21.8)	32(%21.8)	32(%21.8)	92(%27.2)	0.08	2	0.96
	41–51	19 (% 16.7)	19(%16.7)	19(%16.7)	57(%16.9)	0.000	2	1
	51–54	4 (% 3.5)	4(%3.5)	4(%3.5)	12(%3.5)	0.000	2	1
Sex	Female	117(%74.1)	117(%75)	116(%74.4)	350(%74.5)	0.006	2	0.99
	Male	41 (%25.9)	39(%25)	40(%25.6)	120(%25.5)	0.05	2	0.97
Education level	To diploma	36(%22.9)	34(%21.9)	35(%22.6)	105(%22.4)	0.06	2	0.97
	Associate Degree	17(%10.8)	17(%11)	17(%11)	51(%10.9)	0.000	2	1
	Bachelor	85(%54.1)	85(%54.8)	84(%54.2)	254(%54.3)	0.008	2	0.99
	Higher than bachelor	19(%12.1)	19(%12.3)	19(%12.3)	54(%12.2)	0.000	2	1
Job	Doctor	9(%5.8)	9(%5.8)	9(%5.8)	27(%5.8)	0.000	2	1
	Laboratory sciences	25(%16)	25(%16.2)	25(%16.2)	75(%16.1)	0.000	2	1
	Radiologist	19(%12.2)	19(%12.3)	18(%11.7)	56(%12.06)	0.04	2	0.98
	Paramedics and nurses	56(%35.9)	55(%35.7)	55(%35.7)	166(%35.8)	0.012	2	0.99
	services	29(%18.6)	28(%18.2)	29(%18.8)	86(%18.5)	0.023	2	0.98
	Technician others	10(%6.4) 8(%5.1)	10(%6.5) 8(%5.2)	10(%6.5) 8(%5.2)	30(%6.45) 24(%5.15)	0.000 0.000	2 2	1 1
Years of service	< 10	84(%59.6)	83(%59.7)	83(%59.7)	250(%59.65)	0.008	2	0.99
	10–20	43(%30.15)	42(30.2)	42(%30.2)	127(%30.3)	0.06	2	0.99
	20–30	14(%9.9)	14(%10.1)	14(%10.1)	42(%10.03)	0.000	2	1
Passing health course	Yes	71(%54.6)	70(%54.3)	70(%54.3)	211(%54.4)	0.009	2	0.99
	No	59(%45.4)	59(%45.7)	59(%45.7)	177(%45.6)	0.000	2	1

Table 2
Data of Kruskal-Wallis test about the knowledge, attitude and practices among healthcare personnel.

Job Groups		Doctor	Laboratory	Radiologist	Paramedics	Nurses	Health expert	Public Affairs	Services	Technician	Others	χ^2	DF	Significant
Variables														
Knowledge	Number	9	25	19	6	50	4	3	26	10	8	17.957	9	0.036
	Average rating	10.94	8.84	9.58	4.83	62.38	9.38	102	88.42	93.8	84.13			
Attitude	Number	9	25	19	5	50	4	3	25	10	8	11.297	9	0.256
	Average rating	58.83	8.94	6.87	73	86.57	3.13	55.67	83.98	70.5	89.81			
Practices	Number	9	25	18	5	50	4	3	26	10	8	34.451	9	< 0.0001
	Average rating	55	8.18	5.22	91.6	76.15	12.8	85.83	114.2	53.05	60.13			

Table 3

Data of Kruskal-Wallis test about the knowledge, attitude and practice among educational groups regarding biomedical waste management.

Variables	Study groups	Number	Average rating	χ^2	DF	The significance level
Knowledge	To diploma	36	81.38	3.787	3	0.290
	Associate Degree	17	76.15			
	Bachelor	85	74.7			
	Higher than bachelor	19	96.29			
Attitude	To diploma	34	73.21	3.867	3	0.176
	Associate	17	64.18			
	Bachelor	85	83.99			
	Higher than bachelor	19	72.13			
Practices	To diploma	35	100.06	11.743	3	0.008
	Associate	17	69			
	Bachelor	84	73.8			
	Higher than bachelor	19	64			

Table 4

Data of the Mann-Whitney *U* test about the practices among healthcare personnel.

Job Groups	Z	Significant Level
Doctor with a health expert	-2.79	0.005
Doctor with services	-3.19	0.001
Laboratory sciences with services	-2.7	0.007
Laboratory sciences with Technician	-1.95	0.05
Radiology with Nurses	-2	0.04
Radiology with health expert	-2.72	0.003
Radiology with services	-3.91	< 0.0001
Radiology with health expert	-3.62	< 0.0001
Nurses with health expert	-2.41	0.016
Nurses with services	-3.62	< 0.0001
Health expert with Technician	-2.7	0.007
Health expert with others	-2.21	0.027
Services with Technician	-3.27	0.001
services with others	-2.59	0.011

Table 5

Data of the Mann-Whitney *U* for the difference between educational groups about the practices.

Study groups	Z Statistical	The significance level
To diploma or Associate	-2.63	0.008
To diploma or Bachelor	-2.82	0.005
To diploma or Higher than bachelor	-2.76	0.006

9 question about attitude and 11 question about practices [1–10]. The validity and reliability of the questionnaire were tested by relevant experts in this issue and Cronbach's alpha equal to 0.78 was achieved. The knowledge questions were scored by order: 2 scores for "Yes", 1 score for "No" and missing for "No idea" answer. The attitude and practices questions were scored by the Likert spectrum scaled from 1 to 5 score.

Table 6

Spearman correlation coefficients between knowledge, attitude, practices, age, years of service and Passing the health course.

Variables		Correlation rate	The significance level
Age	Knowledge	0.156	0.097
	Attitude	0.108	0.256
	Practices	0.137	0.15
Years of services	Knowledge	0.199	0.018
	Attitude	0.087	0.307
	Practices	0.090	0.291
Passing the health course	Knowledge	0.21	0.89
	Attitude	0.434	0.28
	Practices	0.622	0.062

Table 7

Comparison the range of scores for each field.

The range of scores for each field The scope of the study	Undesirable		Fairly Undesirable		Desirable	
	Number	%	Number	%	Number	%
Knowledge rate	23	14.2	103	36.6	36	22.2
Attitude Status	3	1.9	1	0.6	156	96.3
Behavior Status	13	0.8	101	62.3	46	28.4

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Transparency document. Supplementary material

Transparency document associated with this article can be found in the online version at <https://doi.org/10.1016/j.dib.2018.08.002>.

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