KNOWLEDGE OF BASIC BIOSTATISTICS AND RESEARCH METHODOLOGY AMONG TEACHING STAFF OF MEDICAL SCIENCES COLLEGES AT THE UNIVERSITY OF DUHOK

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ABSTRACT

Background: Doctors and academicians should have a basic understanding of the methods of epidemiology and biostatistics so as to conduct, analyze and report results of medical research. Surveys of medical literature estimated a high rate of wrong or incorrect analyses and interpretation. The main objective of this study was to assess the knowledge of the basic biostatistics and methods of research among teaching staff of the five medical sciences colleges at University of Duhok.

Methods: In this cross-sectional study, a pre-designed questionnaire was distributed to all the teaching staff in the five medical sciences colleges at the University of Duhok as a google form. The questionnaire composed of ten multiple choice questions about the knowledge regarding basic methods of research and data analysis.

Results: The rate of participation was 82% with a mean age of 45.25 years and 70.3% were males. Their educational qualification was master degree for 38.2% and a Ph D or medical board in 61.8%. The rate of correct answers to all questions was low with the highest rate of on the question about Randomized Clinical Trial (54%) and the lowest on the question about p-value (11%). The study found that the number of correct answers was increased with increasing the number of published papers by the participants (P=0.0199).

Conclusions: The knowledge of the teaching staff in the five medical science colleges at UoD regarding research method and statistical analysis of data is below average in a time that they do research continuously.

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Keywords: Biostatistics, Research methods, Teaching staff, University of Duhok.

The current emphasis today is placed on evidence-based care and it has become routine work for the clinician and academicians to read and review articles that might have an impact on patient care, as well as articles describing changes in the philosophy of health care delivery[1]. The clinician is faced with an excessive number of articles, that address many clinical issues, or assess modalities of treatment as well as those exploring the predictive value of various factors on therapeutic outcome. It has become a tough task to remain updated with the medical literature and this process requires a considerable level of knowledge and expertise of the reader to critically appraise relevant studies for their design, methodology, data analysis, and interpretation of findings so as to reach at conclusions[2].

Surveys of medical literature estimated the rate of wrong or incorrect analysis and interpretation to be in the range of 30–

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90%. An analysis of reviewed papers submitted to one medical journal showed that among the most frequent and serious errors were determination of the study type, sample size considerations, selection of the study population, proper use of parametric tests, analysis of repeated measures, descriptive statistics and determination of confidence intervals[3]. In addition, insufficient attention is paid to sample selection, participant refusal, data quality, choice of confounders and lack of p values[4].

To critically appraise published articles, doctors and academicians should have a basic understanding of the methods of epidemiology and biostatistics. These skills are particularly needed for conducting, analyzing and reporting results of medical research[5]. Several studies have found that doctors are often not fully competent in basic research methods and could not satisfactorily answer testing questions; even when they declared their knowledge of the subject, their answers were mostly wrong[6]. Thus, one can conclude that a lack of knowledge in research methods is common among general practitioners. However, little is known about the understanding of basic statistical and epidemiology methods among doctors working in a university and involved in teaching who have an increased exposure to clinical research particularly in this region. In the place of study, the teaching staff is doing research frequently for getting new knowledge and solving some problems on one hand, and on the other hand for their academic promotion. It is noticed that most of them are asking specialized persons in research methodology and biostatistics to help them in such studies and this indicates their lack of knowledge in research field.

The main objective of this study was to assess the knowledge of the basic methods of research and data analysis among teaching staff of the five medical sciences colleges at University of Duhok. Also specifically studying different factors that contribute to their knowledge.

SUBJECTS AND METHODS

Setting, study design and subjects

The University of Duhok (UoD) is the main teaching institution in Duhok, Iraq with the vision of being a leading university, committed to research and teaching. There are five colleges in this university related to medical sciences and they are, the college of medicine, college of nursing, college of dentistry, college of pharmacy and college of health sciences. There are 245 teaching staff working in these five colleges with master and Ph D level in different specialties and with different scientific titles as assistant lecturers, lecturers, assistant professors, and professors[7].

In the current cross-sectional study, all the teaching staff in the five colleges were invited to participate in the study with the exclusion of those who have less than one year teaching experience.

Data collection

The information required for the study was recorded in a pre-designed questionnaire. The questionnaire was adopted from a study done in Israel with somewhat similar objectives but among doctors8. Some modifications done on that questionnaire after being reviewed by two experts in the field, specialists in community medicine and epidemiology. The questionnaire then

translated into a google form and distributed to all the participants online via emails, and other online communication applications like Viber and WhatsApp. The contact information of the participants was acquired from the administration offices of each college. The process of data collection done throughout September and October, 2020.

The questionnaire composed of two parts before which started with a request from the participant to participated with a brief introduction to the study, explanation of questions style and how to fill the form. The two parts were as follows:

Part A: In this part, general information of the participants was there including the age, gender, education qualification, scientific title, working experience in university and the college she/he work in, participation in research methods/ biostatistics course (in undergraduate studies or postgraduate), and the number of published papers, if any.

Part B: This part composed of ten multiple choice questions to select the correct answer out of five answers. The first five questions were about the knowledge of participants regarding basic methods of research and data analysis. The second fives concerned with the knowledge about basic principles in statistics used in medical studies. The five questions of research methods focused on five main topics which are: Randomized clinical trial (RCT), case control studies, power of the study, intention to treat analysis and multivariate analysis. In biostatistics questions the five topics were: P-value, confidence interval, chi-squared test, ANOVA and t-test/non-parametric test. All the ten multiple choice questions about research methodology and biostatistics are there in the appendix.

The participants were asked not to guess the answers and to leave the question not answered if they didn't know or not sure about the answer.

Statistical Analysis

The general characteristics of participants were presented in mean (standard deviation), or number (percentage). The non-parametric distributed variables (working experience and number of published papers) were presented in median (Interquartile range). The responses of the participants to the research methods and biostatistics questions were determined in number (percentage) and presented in bar charts. The association of correct answers with socio-demographic characteristics was examined in the Pearson Chi-squared test. The comparison of the median of correct answers with different published papers was presented in box plots. The correlation of correct answers with age, experience, and number of published papers was examined in bivariate correlation. The extreme outliers were considered in the analysis of correlation. The correct answers to the research methods and biostatistics questions were categorized as <5 correct answers and ≥5 correct answers. The predictors of ≥ 5 correct answers were determined in the logistic regression model. The Odds ratios of the significant factors were determined in 95% confidence intervals. The significant level of difference and association was determined in a P-value of less than 0.05. The statistical calculations were performed by SAS JMP Pro 14.3.

Ethical considerations

The study got the approval from the scientific committee of college of medicine in university of Duhok as well as the approval from the ethical committee at the directorate of health in Duhok. The participation of the subjects in this study was voluntary and the confidentiality of their personal information is protected thorough the entire study and they were informed about that.

RESULTS:

Of the 245 academic staff in the five involved colleges of UoD, 202 (82%) participated and answered the questionnaire. The mean age of the participants was 45.25 years with a range of 29 to 69 years and most of the them were males (70.3%). Their educational qualification was master degree for 38.2% and Ph D or medical board in 61.8%. They had different scientific titles, including assistant lecturer (32.7%), lecturer (38.1%), assistant professor (24.8%), and professor (4.0%). They had also different working experience from 1 to 42 years. The study found that 79.2% and 54.0% of them participated in a research methods and biostatistics courses, respectively. They had different number of published papers (Table 1).

Table 1: General characteristics of participants

Characteristics (n=202)	Frequency Distribution	
	Mean	**Sta. Deviation**
Age (Range: 29-69 yrs.)	45.25	8.67
Age distribution n (%)		
29-39 yrs.	51	25.25
40-49 yrs.	99	49.01
50-59 yrs.	38	18.81
60-69 yrs.	14	06.93
	Number (%)	
Gender n (%)		
Male	142 (70.3)	
Female	60 (29.7)	
Education n (%)		
Master	77 (38.2)	
Ph.D./Medical Board	125 (61.8)	
Scientific title n (%)		
Assistant lecturer	66 (32.7)	
Lecturer	77 (38.1)	
Assistant professor	50 (24.8)	
Professor	9 (4.0)	
Working experience (1-42 yrs.)	Median: 10	Interquartile Range: 8
Experience distribution n (%)		
1-5 yrs.	35	17.327
6-10 yrs.	69	34.158
11-15 yrs.	50	24.752
> 16 yrs.	48	23.762
College n (%)		
Dentistry	21	10.4

Characteristics (n=202)	Frequency Distribution	
	Mean	Sta. Deviation
Health Sciences	15	07.4
Medicine	115	56.9
Nursing	32	15.8
Pharmacy	19	9.4
Participation in research methods course n (%)	160	79.2
Participation in biostatistics course n (%)	109	54.0
Number of published papers (Range: 0-60)	Median: 3	Interquartile range: 6.25
Published papers distribution n (%)		
>15 papers	16	07.9
11-15 papers	14	06.9
1-5 papers	103	51.0
6-10 papers	39	19.3
No paper	30	14.9

Figures 1 illustrates the responses of the participants to the 10 knowledge questions. The highest rate of correct answers in research methods questions was for the question about RCT (54%); while the lowest rate was related to multivariate analysis (18%). When focusing on incorrect answers, participants gave a rate of 69% incorrect to the question about power of the study followed by 63% incorrect rate for the question about multivariate analysis as shown in Figure 1a. Regarding the five question of biostatistics knowledge, the rate of correct answers was generally low for all the questions with the highest correct answer rate for the question about ANOVA (35%) and the lowest for p-value (11%) that has the highest rate of incorrect answer (78%) (Figure 1b).

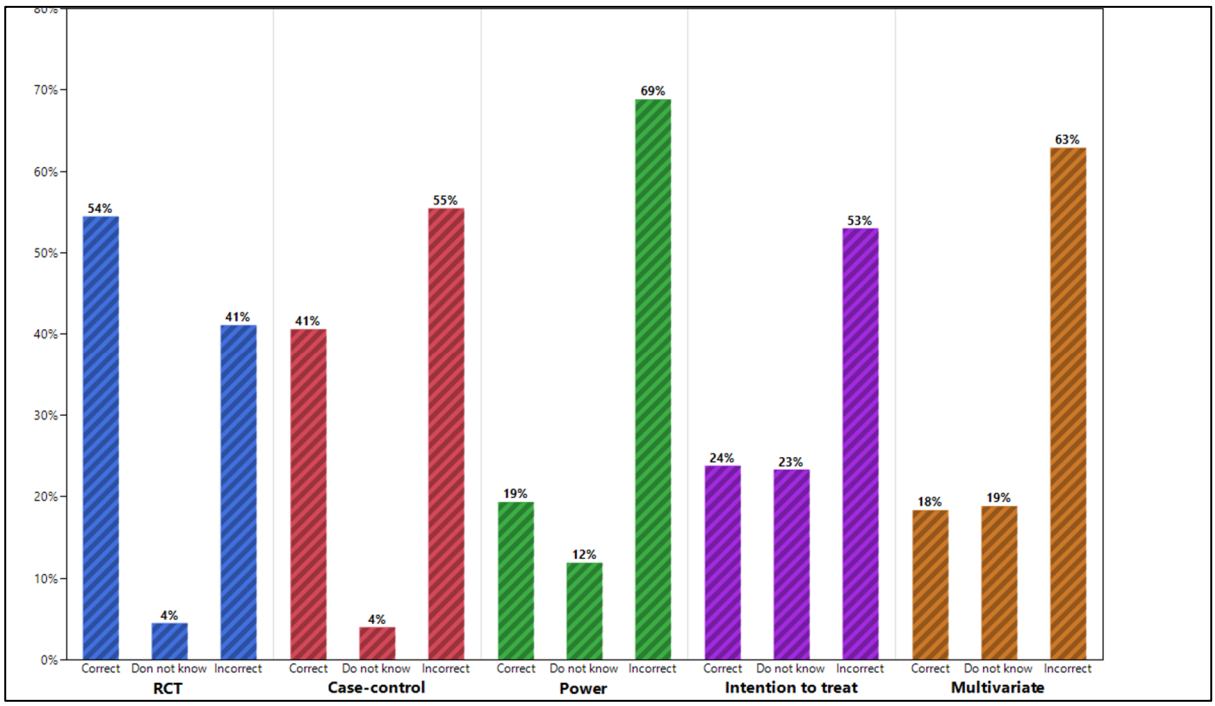

Figure 1a: Responses to epidemiological methods questions

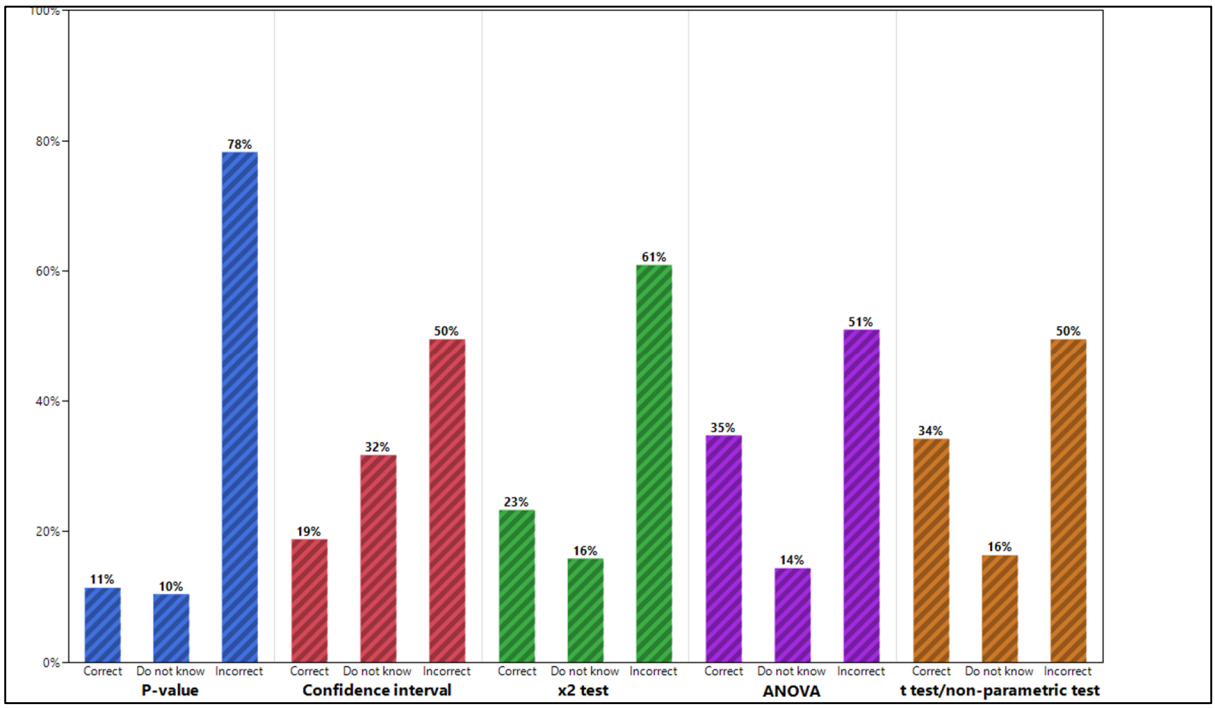

Figure 1b: Responses to biostatistical questions

Figure 1: Responses of the participants to epidemiological methods and biostatistical questions

The study found that the number of correct answers to the research methods and biostatics questions were increased with increasing the number of published papers (P=0.0199). While the correct answers were not shown to associate significantly with all the other variables of gender, age, education, scientific title, college, participation in courses or years of experience (p-value > 0.05) (Table 2 and figure 2).

Table 2: Association of correct answers with socio-demographic characteristics of teachers

Characteristics (n=202)	Correct answers		P-Value
	< 5 correct answers	≥ 5 correct answers	
Gender			0.591
Male	124 (87.32)	18 (12.68)	
Female	54 (90.0)	6 (10.0)	
Age distribution			0.152
29-39	48 (94.12)	3 (5.88)	
40-49	82 (82.83)	17 (17.17)	
50-59	35 (92.11)	3 (7.89)	
60-69	13 (92.86)	1 (7.14)	
Education			0.063
Master	72 (93.51)	5 (6.49)	
Ph.D./Medical board	106 (84.80)	19 (15.20)	
Scientific title			0.257
Assistant lecturer	61 (92.42)	5 (7.58)	
Lecturer	69 (89.61)	8 (10.39)	
Assistant professor	41 (82.00)	9 (18.0)	
Professor	7 (77.78)	2 (22.22)	

Characteristics (n=202)	Correct answers		P-Value
	< 5 correct answers	≥ 5 correct answers	
Colleges			0.797
Dentistry	20 (95.24)	1 (4.76)	
Health sciences	13 (86.67)	2 (13.33)	
Medicine	100 (86.96)	15 (13.04)	
Nursing	29 (90.63)	3 (9.38)	
Pharmacy	16 (84.21)	3 (15.79)	
Published papers			0.0199
No paper	28 (93.33)	2 (6.67)	
1-5 papers	92 (89.32)	11 (10.68)	
6-10 papers	36 (92.31)	3 (7.69)	
11-15 papers	12 (85.71)	2 (14.29)	
>15 papers	10 (62.50)	6 (37.5)	
Participation in the research methods course	140 (87.50)	20 (12.50)	0.595
Yes	38 (90.48)	4 (9.52)	
No			
Participation in biostatistics course			0.077
Yes	92 (84.40)	17 (15.60)	
No	86 (92.47)	7 (7.53)	
Experience			0.978
1-5 yrs.	31 (88.57)	4 (11.43)	
6-10 yrs.	60 (86.96)	9 (13.04)	
11-15 yrs.	44 (88.00)	6 (12.00)	
>16 yrs.	43 (89.58)	5 (10.42)	

Pearson Chi-squared test was performed for statistical analyses.
The red bold number shows a significant association.

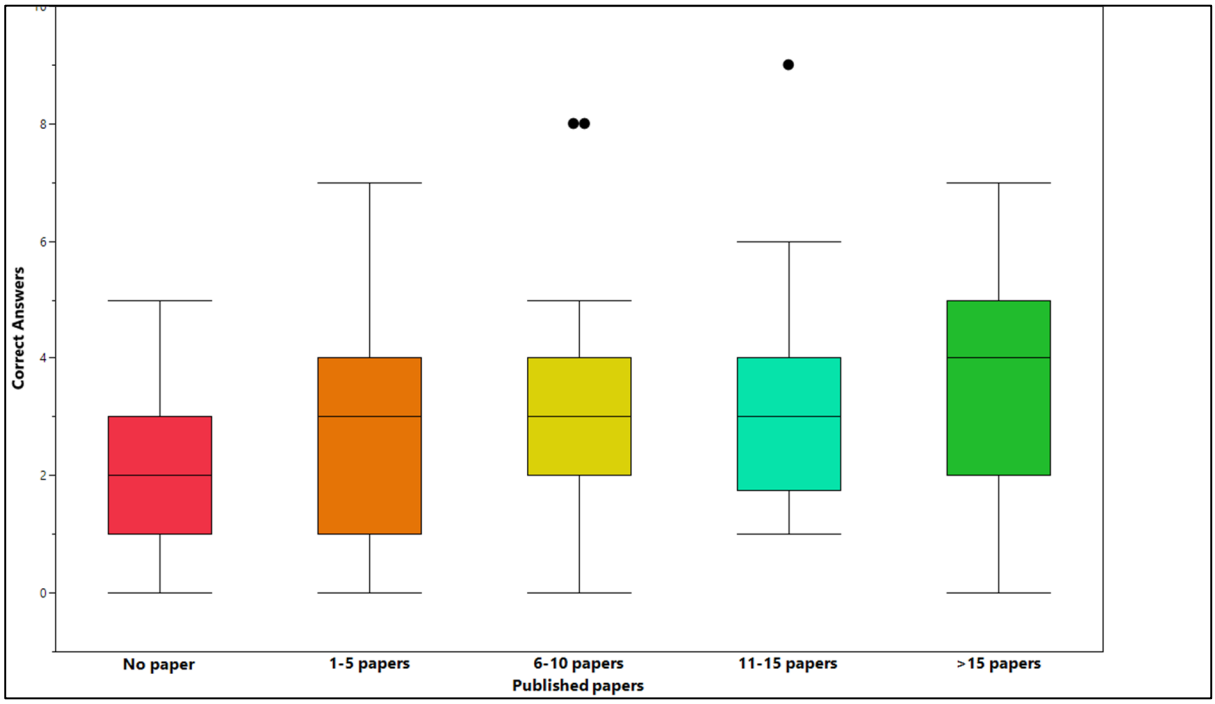

Figure 2: Comparison of the median of correct answers in teachers with different published papers

When logistic regression done, the study showed that participation in a research methods and biostatics courses, having higher scientific title, and more university working experience were predictors of more knowledge about biostatics and epidemiology among participants (Table 3).

Table 3: Logistic regression for prediction of the total number of correct answers Predictors

Controlling factors	P-Value
Participation in biostatistics course	0.00343
Participation in the research methods course	0.00476
Scientific title	0.02277
Experience categories	0.03228
Gender	0.04910
College	0.09061
Published papers	0.28691
Educational qualification	0.62260
Age categories	0.63459

Odds ratios for significant factors

Level 1	/Level 2	Odds Ratio	Prob>Chisq	Confidence Interval	
				Lower 95%	Upper 95%
Scientific title					
Assistant Professor	Assistant Lecturer	11.84	0.0308	1.26	111.55
Lecturer	Assistant Lecturer	3.08	0.1277	0.72	13.08
Professor	Assistant Lecturer	73.66	0.0036	4.09	1328.02
Participation in the research methods course					
Yes	No	5.27	0.0063	1.60	17.37
No	Yes	0.19	0.0063	0.06	0.63
Participation in biostatistics course					
Yes	No	4.97	0.0064	1.57	15.76
No	Yes	0.20	0.0064	0.06	0.64
Experience at university					
6-10 yrs.	1-5 yrs.	0.46	0.2704	0.12	1.83
11-15 yrs.	1-5 yrs.	0.27	0.1244	0.05	1.43
> 16 yrs.	1-5 yrs.	0.06	0.0064	0.01	0.45

A nominal regressing model was performed for statistical analyses.
The red bold numbers show the controlling factors.

DISCUSSION:

Competence in biostatistics and research design is essential for conducting research as well as for utilizing published research especially for university academic staff. This study tackled an important subject as the teaching staff at the University of Duhok is used to do research continuously for development of their teaching performance as well as for their academic promotion.

Data collection in this study was done online as it was the period of the increasing complexity and severity of COVID-19 pandemic in Duhok were avoiding physical contact was somewhat mandatory. Adding to that it is easier for multiple choice questions type questionnaire to be done online with a good participation in a short time. Involving the staff of five different colleges aimed to have a good number of participants with the opportunity also to study many variables and their association with the staff knowledge about research methodology and biostatistics. One of the

limitations of this method of data collection, and could be the main limitation of the study, is that participants could search for the answer before submitting the response so as not to show their limited knowledge. To decrease the chance of that, participants were requested to answer just by their knowledge, not to search for the information, as the response to google form is anonymous. Guessing the answer may change the real knowledge also, so the participant was requested not to guess and leave the question unanswered if have no information.

The participation rate was good as 82% of the required staff of the five colleges did answer the questionnaire completely. Males were much more than females as participants in this study. This is accepted as from the UoD data of teaching staff the male to female ratio of the teaching staff in the included five colleges is 1.7:17.

The first general finding of the study was the overall low level of knowledge of the participants about the basic methods of research and data analysis. This is a common finding in the results of different studies done among academic staff, physicians, pharmacist and nurses1,8,9,10. Many times, the academic staff of the university of Duhok did not do the statistical analysis part of their studies themselves and leave it for specialized statisticians. Though the rate of correctly answering research methods questions was low, the knowledge of the participants showed the highest correct answer rate for the question of RCT. As a good number of the university staff are clinicians and health workers in hospitals also, this may make them think and do more clinical trials and may partly explain this result. A similar outcome was seen in a study done among postgraduate resident pharmacists of an accredited residency programs in the United States11. In the same manner the study done in Israel among medical doctors revealed a highest correct answer rate on the question about RCT.8 Surprisingly, participants' knowledge in biostatistics was the least regarding p-value. Having p-value mentioned and calculated in most of the studies should be a hinder for the academic researcher to know much about it. This was clear in a study done at King Abdulaziz University Hospital in Saudi Arabia among all residents enrolled in a Health Specialties training programs in which their knowledge was best in the subject of p-value12.What variables may be associated with participants' knowledge of research methods and data analysis was also studied in this research using Chi squared test. It has been shown that only the higher number of published papers by them is significantly associated with their better knowledge. One may think that the scientific title and participation in training courses should also contribute to increasing knowledge. This become clear after logistic regression done as it showed that these two factors together with university working experience are predictors of more knowledge about biostatics and epidemiology. A very similar outcome was seen in a study done in Canada among Obstetrics and Gynecology residents as their knowledge of interpreting research statistical analysis was significantly higher in those with increased seniority, in those who had taken a previous epidemiology/statistics course and in those who had prior publications13.

The knowledge of the teaching staff in the five medical science colleges at UoD regarding research method and statistical analysis of data is below average in a time that they do research continuously. As a recommendation, annual training courses about research methods and biostatistics are needed for the university staff and having a certificate of participation in these courses could be a requirement for qualification.

CONFLICT OF INTEREST:

The author declares that there is no conflict of interest.

REFERENCES:

1. Batra M, Gupta M, Dany SS, Rajput P. Perception of Dental Professionals towards Biostatistics. Int Sch Res Notices. 2014; 2014: 1–6.
2. Polychronopoulou A, Eliades T, Taoufik K, Papadopoulos MA, Athanasiou AE. Knowledge of European orthodontic postgraduate students on biostatistics. Eur J Orthod. 2011; 33(4): 434–40.
3. Rushton L. Reporting of occupational and environmental research: use and misuse of statistical and epidemiological methods. Occup Environ Med. 2000; 57: 1–9
4. Pocock SJ, Collier TJ, Dandreo KJ, de Stavola BL, Goldman MB, Kalish LA, et al. Issues in the reporting of epidemiological studies: A survey of recent practice. BMJ. 2004; 329(7471): 883–7.
5. Redmond AC, Keenan AM. Understanding statistics: Putting P-values into perspective. J Am Podiatr Med Assoc. 2002; 92(5): 297-305.
6. Godwin M, Seguin R. Critical appraisal skills of family physicians in Ontario, Canada. BMC Medical Education. 2003; 3(10): 1472-8.
7. University of Duhok. https://www.uod.ac/ac/c/. 2021.
8. Novack L, Jotkowitz A, Knyazer B, Novack V. Evidence-based medicine: Assessment of knowledge of basic epidemiological and research methods among medical doctors. Postgrad Med J. 2006; 82(974): 817–22.
9. Windish DM, Huot SJ, Green ML. Medicine Residents' Understanding of the Biostatistics and Results in the Medical Literature. JAMA. 2007; 298(9): 1010-22.
10. Khan H, Khan S, Iqbal A. Knowledge, attitudes and practices around health research: The perspective of physicians-in-training in Pakistan. BMC Med Educ. 2009; 9(1).
11. Brandon Bookstaver P, Miller AD, Felder TM, Tice DL, Norris LB, Sutton SS. Assessing Pharmacy Residents' Knowledge of Biostatistics and Research Study Design. Ann Pharmacother. 2012; 46(8): 991–9.
12. Al-Zahrani SH, Aba Al-Khail BA. Resident physician's knowledge and attitudes toward biostatistics and research methods concepts. Saudi Med J. 2015; 36(10): 1236–40.
13. Bougie O, Posner G, Black AY. Critical Appraisal Skills Among Canadian Obstetrics and Gynaecology Residents: How Do They Fare? JOGC. 2015; 37(7): 639–47.

Appendix:

Questions used for assessing the knowledge of the participants

I: Questions testing knowledge of basic principles in research methodology

1. A study investigating an effect of a new drug for decreasing blood pressure should be a study of type:

(a) Retrospective cohort study
(b) Prospective case–control study
(c) Double-blind placebo–controlled study
(d) Cross-sectional observational study
(e) Ecological study

2. You are investigating risk factors for a very rare disease. Which type of study you should choose in order to obtain results most effectively and quickly?

(a) Prospective cohort study
(b) Case–control study
(c) Clinical trial
(d) Cross-sectional observational study
(e) Quasi experimental study

3. Researchers compared between two diets by loss of weight measured at 3 months after the start of treatment. Study groups included 18 and 10 subjects. A decrease of 5% weight on average was observed in group taking diet A, and a decrease of 7% on average in group taking diet B. The observed difference was not statistically significant (p-value 0.10). What could be the main reason for rejecting publication of these results?

(a) Study groups are different by size
(b) Results are not significant
(c) P-value is high
(d) The absolute difference in decrease in weight is very small
(e) The power of the analysis is probably very small

4. You perform intention to treat analysis in summarizing the data of a clinical trial in order to avoid:

(a) Recall bias
(b) Selection bias
(c) Verification bias
(d) Lead-time bias
(e) Confounding

5. A research found that excessive use of sun-protective cream is related to development of skin cancer. This relationship could be partially explained by the presence of a confounder. To assess the direct effect of cream on development of skin cancer, the researchers should perform:

(a) Adjustment to sun exposure by means of a multivariable analysis
(b) Adjustment to sun exposure by excluding variable ‘‘sun exposure’’ from the multi-variable analysis
(c) New study in populations less exposed to sun
(d) New study using more than one type of sun-protective creams
(e) It is impossible to perform assessment of the direct effect of cream on development of skin cancer

II: Questions testing knowledge of basic principles in biostatistics

6. Treatment A was found to have a significant effect with p-value = 0.05 and the treatment B effect was found significant with p value = 0.002. We may conclude that:

(a) The effect of treatment A is larger than that of treatment B
(b) The effect of treatment B is larger than that of treatment A
(c) It is impossible to compare the size of the effects
(d) Both treatments have significant effect and therefore are equally effective
(e) Both treatments are non-effective

7. A researcher found an effect with p-value = 0.07. A confidence interval of 95% (95% CI) for relative risk (RR) could be:

(a) 1.4 to 1.8
(b) 0.3 to 0.9
(c) 0.9 to 1.3
(d) 1.2 to 2.5
(e) 4.5 to 10

8. Which test should be used for comparison of prevalence of disease A in men and women?

- **(a)** ANOVA
- **(b)** Unpaired t-test
- **(c)** Paired t-test
- **(d)** x^2 test
- **(e)** Correlation

9. Which test should be used for comparison of blood pressure values between subjects belonging to three levels of smoking?

- **(a)** T-test
- **(b)** Paired t test
- **(c)** Correlation
- **(d)** ANOVA
- **(e)** x^2 test

10. A researcher compares satisfaction levels from treatment received in emergency department (measured in ascending categories from 1 to 4) between two study groups. Which test should be used?

- **(a)** t test
- **(b)** x^2 tests
- **(c)** Correlation
- **(d)** ANOVA
- **(e)** Non-parametric test

پوختە

ئاستێ زانینا بنەمایێن شروڤەکرنا پێزانینا و رێکێن ڤەکولینێ لدەف ماموستایێن کولیژێن زانستێن پزیشکی ل زانکویا دهوك

باگراوند وئارمانج: پێدڤییە نوژدار وستافێ ئەکادیمی پێزانینێن سەرەکی هەبن لدور زانستێ رێکێن ڤەکولینا و شروڤەکرنا پێزانینا ژبو ئەنجامدان و شروڤەکرن و راپورتکرنا ئەنجامێن ڤەکولینا. دناڤ ڤەکولینێن رامالین یێن نوژداری دیاربوویە کو رێژا خەلەتیا د شروڤەکرن و تێگەهشتنێ دا یا زێدەیە. ئارمانجا سەرەکی یا ڤێ ڤەکولینێ هەلسەنگاندنا ئاستێ زانینا بنەمایێن شروڤەکرنا پێزانینا و رێکێن ڤەکولینێ لدەف ماموستایێن کولیژێن زانستێن پزیشکی ل زانکویا دهوك بوویە.

رێکێن ڤەکولینێ: دڤێ ڤەکولینا پارچە نمونەیی دا پرسنامەکا ئامادەکری هاتە بەلاڤکرن لسەر هەمی ماموستایێن کولیژێن زانستێن پزیشکی ل زانکویا دهوك بریکا ئونلاین. پارچا سەرەکی یا ڤێ ڤەکولینێ پێکهاتبوو ژ 10 پیسارێن هەلبژارتن لدور زانینا ماموستایا سەبارەت شروڤەکرنا پێزانینا و رێکێن ڤەکولینێ.

ئەنجام: رێژا بەشداربوونێ 82٪ بوو و تێکرایێ ژیێ بەشداربوویا 42.25 سال بوو کو 70.3٪ ژ وان نێر بوون. ئاستێ زانستی یێ 38.2٪ ژ وان ماستەر بوو و 61.8٪ دکتورا یان بوردا نوژداری بوو. بشێوەکێ گشتی رێژا بەرسڤدانا دروست یا هەمی پسیارا یا کێم بوو و بلندترین رێژا دروست لسەر پسیارا بابەتێ ڤەکولینێن تاقیکرنەیی یێن بهەروەیی بوو (54٪) و نزمترین رێژە یا پسیارا p-value بوو (11٪). ڤەکولینێ دیارکر ژی کو ژمارا بەرسڤێن دروست لیەر پیسارا زێدە دبیت دگەل زێدەبوونا ژمارا ڤەکولینێن بەلاڤکری ژلایێ بەشداربوویا ڤە.

دەرئەنجام: ئاستێ زانینا بنەمایێن شروڤەکرنا پێزانینا و رێکێن ڤەکولینێ لدەف ماموستایێن هەر پێنج کولیژێن زانستێن پزیشکی ل زانکویا دهوك ژ ناڤەندیێ کێمترە ددەمەکی دا کو ئەو بەردەوام ڤەکولینا ئەنجام ددەن.

الخلاصة

معرفة أساسيات الإحصاء الحياتي وطرق البحث لدى تدريسيي كليات العلوم الطبية في جامعة دهوك

الخلفية والأهداف: يجب أن يكون لدى الأطباء والأكاديميين فهم أساسي لطرق علم الأوبئة والإحصاء الحياتي لإجراء وتحليل ونشر نتائج البحوث الطبية. قدرت الدراسات المسحية الطبية معدل عالي في التحليل والتفسير الخاطئ أو غير الصحيح. كان الهدف الرئيسي من هذه الدراسة هو تقييم المعرفة بالطرق الأساسية للبحث وتحليل البيانات تدريسيي كليات العلوم الطبية الخمس بجامعة دهوك.

طرق البحث: في هذه الدراسة المقطعية ، تم توزيع استبيان مصمم مسبقًا على جميع أعضاء هيئة التدريس في كليات العلوم الطبية الخمس بجامعة دهوك عبر الإنترنت. تضمن الجزء الرئيسي من الاستبيان عشرة أسئلة متعددة الخيارات حول معرفة المشاركين فيما يتعلق بالأساليب الأساسية للبحث وتحليل البيانات.

النتائج: بلغت نسبة المشاركة 82٪ بمتوسط عمر 45.25 سنة و70.3٪ ذكور. كان مؤهلهم التعليمي درجة الماجستير بنسبة 38.2٪ ودكتوراه أو بورد طبي في 61.8٪. كان معدل الإجابات الصحيحة لجميع الأسئلة بشكل عام منخفضًا مع أعلى معدل للإجابة الصحيحة على السؤال حول التجربة السريرية العشوائية (54٪) وأقل معدل على السؤال حول القيمة الاحتمالية (11٪). توصلت الدراسة إلى أن زيادة عدد الإجابات الصحيحة يتناسب مع زيادة عدد البحوث المنشورة من قبل المشاركين (P = 0.0199).

الاستنتاجات: معرفة أعضاء هيئة التدريس في كليات العلوم الطبية الخمس في جامعة دهوك فيما يتعلق بطريقة البحث والتحليل الإحصائي للبيانات أقل من المتوسط في الوقت الذي يقومون فيه بالبحث بشكل مستمر.