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A One- Day Research Methodology Workshop for Dental House Surgeons: A Feedback of Pre and Post Workshop Questionnaire -

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ABSTRACT

Aim: The aim of this study was to evaluate the feedback of a one day workshop organized for dental house surgeons.

Materials and Methods: A pretest posttest research study was conducted by R&D department, Baqai Dental College. A one day workshop on research methodology was designed for the house surgeons working in all clinical departments of Baqai Dental College. The total no of participants present on the day workshop were 44. Before starting the workshop, a pretest questionnaire based on research methodology contents were distributed to the participants and collected after an interval of 15 minutes. A posttest questionnaire was again distributed to the participants after the workshop ended.

Result: The response rate for the pre workshop was 51.8% and response rate for the post workshop was 48.2%. Regarding the question asked about research methodology only 8 (18.2%) of the house surgeons marked the option "yes" before the workshop and 38 (92.7%) of them marked "yes" after the workshop. Understanding of research methodology was found to be improved after the workshop finished.

Conclusion: The present study concluded that feedback from the participants before and after the workshop proved the workshop conducted was successful in improving their Knowledge regarding principles of research methodology.

Keywords: Feedback; Pretest; Posttest; Research methodology

INTRODUCTION

Research is an essential part of medical profession whether clinical or academic. The essential procedure which is followed by the researchers and medical professionals through their work is called as research methodology [1]. To develop new techniques in the field of medical science or patient management and care, research is required, and to keep the knowledge up-to-date, training is required [2]. Research methodology is the approach that is used scientifically to resolve research problem and add new contributions to the existing knowledge and understanding of the issue investigated [3]. A research methodology workshop intends to help participants, who have had minimum or no previous research experience, who have just started working towards formulating research question or topic, or those who are already doing empirical research [4] and this intends to improve participants research related knowledge and skills [5]. Seeking and application of learner's feedback is considered a valuable tool to endorse enthusiasm and progression in research methodology workshop [5].

The effectiveness of these workshops can be assessed by the pretest and posttest questionnaires; therefore the aim of this study was to evaluate the feedback of a one day workshop organized for dental house surgeons.

MATERIALS AND METHODS

A pretest posttest research study was conducted by R&D department, Baqai Dental College. A one day workshop on research methodology was designed for the house surgeons working in all clinical departments of Baqai Dental College. The total no of participants present on the day workshop were 44. Participants who were absent on the day of workshop were excluded from the study. A circular regarding the workshop day and date was displayed on the notice boards of Baqai Dental College. The eligible and competent facilitators of R&D department conducted the workshop. Before starting the workshop, a pretest questionnaire based on research methodology contents were distributed to the participants and collected after an interval of 15 minutes. A posttest questionnaire was again distributed to the participants after the workshop ended. Data was entered and analyzed for frequency and percentages by using IBM SPSS version 22. *p*- Value was kept at 0.05 as significant value.

RESULT

The response rate for the pre workshop was 51.8% and response rate for the post workshop was 48.2%. Forty four house surgeons filled the pre workshop questionnaire and 41 house surgeons filled the post workshop questionnaire. Regarding the question asked about research methodology only 8 (18.2%) of the house surgeons marked the option "yes" before the workshop and 38 (92.7%) of them marked "yes" after the workshop. Understanding of research methodology was found to be improved after the workshop finished. Statistically significant results were obtained for each question asked. Table 1 showed frequency and percentages before and after the workshop.

DISCUSSION

A one - day workshop was conducted on Research Methodology by Research & Development Department (R&D). The present study was designed for the house surgeons to improve their knowledge about principles of research methodology. The questions included were definition of research methodology, study settings, study population, variables and its types, sample size and its calculations, types of sampling, study designs, measuring tools. Feedback of the study was done through the pretest and posttest questionnaire. It was found there was significant improvement with all the questions in posttest questionnaire. A study done in UAE reported questionnaire based pre and posttest scores [6]. Dimple VK, et al. [7] reported a constructive feedback on improvement of the workshop. Alfakih, et al. [8] reported improvement in the scores of the participants of the workshop. Bidwe, et al. [9] also reported significant improvement in the posttest scores of teaching staff and postgraduate students. Kumar, et al. [10] in a study found significant differences in pretest and posttest scores. Similar results were observed by Prabhu, et al. [11] and Shrivastava, et al. [12] reported that the mean pretest and post-test scores at 95% confidence interval were 07.62 respectively.

The statistical methods make the research scientific if they are used from the stage of planning of the research itself. The unbiased, consistent, and effective parameters are provided by correct usage of statistics. [13] Researchers are liable to calculate sample size appropriately, either themselves or with the help of the statistician by previous studies keeping suitable marginal error with significant level [13]. Gore AD, et al. [13] in a study reported that half of the

Table 1: Comparison of pre workshop and post workshop questionnaire.

Questions	Pre workshop		Post workshop		p - value
	Yes n (%)	No n (%)	Yes n (%)	No n (%)	
Do you know what is methodology	16 (36.4%)	28 (63.6%)	40 (97.6%)	1 (2.4%)	0.000
Do you know what is research methodology	8 (18.2%)	36 (81.8%)	38 (92.7%)	3 (7.3%)	0.000
Do you know the term study settings	11 (25%)	33 (75%)	32 (78%)	9 (22%)	0.000
Do you know the term study population	16 (36.4%)	28 (63.6%)	37 (90.2%)	4 (9.8%)	0.000
Do you know the types of study population	9 (20.5%)	35 (79.5%)	37 (90.2%)	4 (9.8%)	0.000
Do you know the term variables	16 (36.4%)	28 (63.6%)	38 (92.7%)	3 (7.3%)	0.000
Do you know the types of variables	7 (15.9%)	37 (84.1%)	36 (87.8%)	5 (2.2%)	0.000
Do you know the term sample	24 (54.5%)	20 (45.5%)	38 (92.7%)	3 (7.3%)	0.000
Do you know what is sample size	10 (22.7%)	34 (77.3%)	38 (92.7%)	3 (7.3%)	0.000
Do you know how to calculate sample size	5 (11.4%)	39 (88.6%)	37 (90.2%)	4 (9.8%)	0.000
Do you know what is sampling frame	3 (6.8%)	41 (93.2%)	38 (92.7%)	3 (7.3%)	0.000
Do you know types of sampling	12 (27.3%)	32 (72.7%)	38 (92.7%)	3 (7.3%)	0.000
Do you now the methods used in probability sampling	5 (11.4%)	39 (88.6%)	33 (80.5%)	8 (19.5%)	0.000
Do you know the term study designs	20 (45.5%)	24 (54.5%)	37 (90.2%)	4 (9.8%)	0.000
Do you know the types of study design	12 (27.3%)	32 (72.7%)	34 (82.9%)	7 (17.1%)	0.000
Do you know what is cross sectional studies	21 (47.7%)	23 (52.3%)	39 (95.1%)	2 (9.4%)	0.000
Do you know steps in conducting cross sectional studies	9 (20.5%)	35 (79.5%)	36 (87.8%)	5 (12.2%)	0.000
Do you know the term Measuring instruments	8 (18.2%)	35 (79.5%)	36 (87.8%)	5 (12.2%)	0.000
Do you know types of measuring instruments	6 (13.6%)	38 (86.4%)	38 (92.7%)	3 (7.3%)	0.000
Do you know the terms <i>in vivo</i> and <i>in vitro</i> studies	11 (25%)	33 (75%)	36 (87.8%)	5 (12.2%)	0.000

respondents 50.97% did not know how to calculate sample size appropriately. Only 49.03% of the participants knew how to calculate sample size correctly, 13.8% participants by applying the standard formula or 35.16% with the help of a statistician. The present study reported that only 11.4% of the participants knew how to calculate sample size before the workshop and 90.2% of the participants knew how to calculate sample size after the workshop ($p = 0.000$)

Unfortunately some of the researchers use simple random sampling technique, irrespective of the appropriateness of the study design as they know only this method. [14] Gore AD, et al. [13] in a study reported that 55.5% of the participants were unaware of the different sampling techniques, and those who said they were aware, did not mention the sampling techniques correctly.

LIMITATIONS OF STUDY

The limitations of the study included that the workshop should be conducted for two days instead of one day workshop. There were too many things discussed which were difficult to understand and memorize. The feedback lacks the grading questionnaire of the workshop.

CONCLUSION

The present study concluded that feedback from the participants before and after the workshop proved the workshop conducted was successful in improving their Knowledge regarding principles of research methodology.

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