

Table S1. CPAT-QU Questionnaire.

Section/topic	Item	Item description	Reported on page #
Title and abstract			
Title and abstract	1a	State the word “survey” along with a commonly used term in title or abstract to introduce the study’s design.	1
	1b	Provide an informative summary in the abstract, covering background, objectives, methods, findings/results, interpretation/discussion, and conclusions.	1
Introduction			
Background	2	Provide a background about the rationale of study, what has been previously done, and why this survey is needed.	1 & 2
Purpose/aim	3	Identify specific purposes, aims, goals, or objectives of the study.	1 & 2
Methods			
Study design	4	Specify the study design in the methods section with a commonly used term (e.g., cross-sectional or longitudinal).	2
Data collection methods	5a	Describe the questionnaire (e.g., number of sections, number of questions, number and names of instruments used).	2 & 3
	5b	Describe all questionnaire instruments that were used in the survey to measure particular concepts. Report target population, reported validity and reliability information, scoring/classification procedure, and reference links (if any).	2 & 3
	5c	Provide information on pretesting of the questionnaire, if performed (in the article or in an online supplement). Report the method of pretesting, number of times questionnaire was pre-tested, number and demographics of participants used for pretesting, and the level of similarity of demographics between pre-testing participants and sample population.	2 & 3
	5d	Questionnaire if possible, should be fully provided (in the article, or as appendices or as an online supplement).	Table S1
	6a	Describe the study population (i.e., background, locations, eligibility criteria for participant inclusion in survey, exclusion criteria).	2 & 3
Sample characteristics	6b	Describe the sampling techniques used (e.g., single stage or multistage sampling, simple random sampling, stratified sampling, cluster sampling, convenience sampling). Specify the locations of sample participants whenever clustered sampling was applied.	2 & 3
	6c	Provide information on sample size, along with details of sample size calculation.	2 & 3
Survey	6d	Describe how representative the sample is of the study population (or target population if possible), particularly for population-based surveys.	2 & 3
	7a	Provide information on modes of questionnaire administration, including the type and number of contacts, the location where the survey was conducted (e.g., outpatient	2 & 3

administration		room or by use of online tools, such as SurveyMonkey).	
	7b	Provide information of survey's time frame, such as periods of recruitment, exposure, and follow-up days.	2 & 3
		Provide information on the entry process:	2 & 3
	7c	→For non-web-based surveys, provide approaches to minimize human error in data entry.	2 & 3
		→For web-based surveys, provide approaches to prevent "multiple participation" of participants.	
Study preparation	8	Describe any preparation process before conducting the survey (e.g., interviewers' training process, advertising the survey).	2 & 3
Ethical considerations	9a	Provide information on ethical approval for the survey if obtained, including informed consent, institutional review board [IRB] approval, Helsinki declaration, and good clinical practice [GCP] declaration (as appropriate).	2 & 3
	9b	Provide information about survey anonymity and confidentiality and describe what mechanisms were used to protect unauthorized access.	2 & 3
	10a	Describe statistical methods and analytical approach. Report the statistical software that was used for data analysis.	2 & 3
	10b	Report any modification of variables used in the analysis, along with reference (if available).	2 & 3
Statistical analysis	10c	Report details about how missing data was handled. Include rate of missing items, missing data mechanism (i.e., missing completely at random [MCAR], missing at random [MAR] or missing not at random [MNAR]) and methods used to deal with missing data (e.g., multiple imputation).	2 & 3
	10d	State how non-response error was addressed.	2 & 3
	10e	For longitudinal surveys, state how loss to follow-up was addressed.	N/A
	10f	Indicate whether any methods such as weighting of items or propensity scores have been used to adjust for non-representativeness of the sample.	2 & 3
	10g	Describe any sensitivity analysis conducted.	N/A

Results

Respondent characteristics	11a	Report numbers of individuals at each stage of the study. Consider using a flow diagram, if possible.	4
	11b	Provide reasons for non-participation at each stage, if possible.	2 & 3
	11c	Report response rate, present the definition of response rate or the formula used to calculate response rate.	4

Descriptive results	11d	Provide information to define how unique visitors are determined. Report number of unique visitors along with relevant proportions (e.g., view proportion, participation proportion, completion proportion).	N/A
	12	Provide characteristics of study participants, as well as information on potential confounders and assessed outcomes.	2 & 3
	13a	Give unadjusted estimates and, if applicable, confounder-adjusted estimates along with 95% confidence intervals and p-values.	2 & 3
Main findings	13b	For multivariable analysis, provide information on the model building process, model fit statistics, and model assumptions (as appropriate).	N/A
	13c	Provide details about any sensitivity analysis performed. If there are considerable amount of missing data, report sensitivity analyses comparing the results of complete cases with that of the imputed dataset (if possible).	N/A
Discussion			
Limitations	14	Discuss the limitations of the study, considering sources of potential biases and imprecisions, such as non-representativeness of sample, study design, important uncontrolled confounders.	8
Interpretations	15	Give a cautious overall interpretation of results, based on potential biases and imprecisions and suggest areas for future research.	6, 7 & 8
Generalizability	16	Discuss the external validity of the results.	6, 7 & 8
Other sections			
Role of funding source	17	State whether any funding organization has had any roles in the survey's design, implementation, and analysis.	N/A
Conflict of interest	18	Declare any potential conflict of interest.	9
Acknowledgements	19	Provide names of organizations/persons that are acknowledged along with their contribution to the research.	N/A

Table S2 Checklist for Reporting Of Survey Studies (CROSS)

Demographic	
Graduation	Year Semester
Educational level	
Profession status	<input type="checkbox"/> Employed <input type="checkbox"/> engaged in training
If employed, Job title	
Joining date	
Employer name	
Lab Specialty or section(s)	<input type="checkbox"/> Hematology <input type="checkbox"/> chemistry <input type="checkbox"/> immunology <input type="checkbox"/> Virology <input type="checkbox"/> Microbiology <input type="checkbox"/> Blood Bank <input type="checkbox"/> Molecular/Genetics <input type="checkbox"/> Research lab
How satisfied are you with the CONTENT of the Clinical Training Internship Program offered by Qatar University in term of? “0 = very unsatisfied, 1 = unsatisfied, 2 = neutral/undecided, 3= satisfied, 4 = very satisfied”	
Organization	
1. Objectives were clearly stated. Written procedures were readily available.	
Content	
2. Material was presented at an appropriate difficulty level. Instruction enabled me to understand & utilize procedures. There were sufficient samples available to perform, repeat and practice the required procedures.	
Evaluation criteria	
3. The grading system was clearly explained. Exams and assignments were fair.Exams reflected the objectives & rotations' content.	
Length	
4. The amount of time allocated for the rotations was appropriate. Time was well utilized.	
How satisfied are you with the CLINICAL INSTRUCTORS of the Clinical Training Internship Program offered by Qatar University in term of? “0 = very unsatisfied, 1 = unsatisfied, 2 = neutral/undecided, 3= satisfied, 4 = very satisfied”	
Instructor's Attitude	
5. Instructor made you feel welcome and part of the laboratory team. Instructor exhibited openness to student ideas and questions. Instructor inspired me to put forth my best effort and had a positive attitude.	
Command of Material/Knowledge/Expertise	
6. Instructor appeared knowledgeable in the subject matter.	
Ability to Convey Knowledge and Expertise	
7. Instructor communicated the subject matter well. Instructor perceived student's ability and adjusted pace accordingly. Instructor presented information in an interesting and thought-provoking manner.	
Interest in Teaching	
8. Instructor appeared to be interested in teaching students. Instructor demonstrated enthusiasm	

With respect to your undergraduate degree, please indicate how well the clinical training internship assisted you in **DEVELOPING** the knowledge and skills required in your profession and how well such knowledge and skills were **USED** in your current profession?

“0 = Not at all, 1 = little, 2 = to some extent, 3 = well, 4 = very well”

Knowledge/skills	Internship Efficiency score in term of developed knowledge/skills During undergraduate	Internship Efficiency score in term of used knowledge/skills in your degree profession
Cognitive Domain		
9. Recall of basic knowledge and comprehension		
10. Awareness of organizational structure, management, safety, infection prevention control measures, quality management		
11. Awareness of financial management, budget, staffing, HR laws and regulation of the degree profession.		
12. Application and interpretation of content/results		
13. Critical analysis, decision-making, and problem solving, which relates to the evaluation and processing of knowledge.		
14. Ability to retrieve/locate information from a range of sources		
Psychomotor Domain		
15. Readiness; an awareness of and ready to analyze samples or observe		
16. Competence and confidence with performing a task or analyzing samples		
17. Proficiency and adaptation, ability to alter performance successfully when encountering unexpected lab results or having new situations		
18. Research skills (e.g. planning and design experiments)		
19. Information and communication technology skills		
20. Report writing and written communication skills		
21. Oral presentation and verbal communication		
Affective Domain		
22. Appreciation of ethical scientific behavior		
23. Leadership skills		
24. Team working skills		
25. Time management and organizational skills		
26. Ability to use own initiative		
27. Ability of independent learning required for continuing professional development		
How may the program improve its CURRICULUM to match the need of the labor market more from your point of view (open question)?		