# Good example of qualitative and quantitative research techniques essay

Health & Medicine, Healthcare

## Critiquing Quantitative and Qualitative Studies

Several research techniques are available all with the aim of achieving precise data or information or data about something. Quantitative technique, sometimes referred to as true science, involves the use of mathematical and statistical methods in the analysis and drawing useful information from a specific set of data (Davies, 2009). On the other hand, qualitative is a type of technique used to study behavior and habits portrayed by humans under different environments. The critique is aimed at juxtaposing the two techniques involved in the field of research with critical analysis of the two methods.

## Compare and Contrast Information

Hand hygiene especially in health care setting is a critical issue. Therefore, intensive and appropriate research is crucial in the quest to attain methods that can be adopted to help solve the problem. Approach of research technique determines the importance of the information got and the relevance towards achieving the stated objectives of the research. Quantitative research is one the techniques that can be use in research for a particular topic. It is often referred to as true science. It involves the experimental type of research where real scientific experiments are carried out on a particular sample to obtain the required data. A good example of this is the observation of the effect of varied levels of hand hygiene in a health care setting. Crucial information from the studied document and performed experiment cannot be underestimated with the provision of statistical data. One gets to understand the technicality of the aspect under

a controlled and observable environment. A comparison of varying had hygiene situation is well-described showing variations in samples chose for the experiment.

The other type of research method that can be applied in this field is called qualitative research technique. It is mostly applied by health organization before making generalized conclusion about a certain issue. Observation of the article on hand hygiene that employs this form of experiment, it is clear that it is based on stating the underlying reasons behind certain phenomena. Mostly, it is used to make a general conclusion in identification of a problem. It also helps in the formulation of a vital hypothesis for quantitative research that can be carried out later on in the research process. An important aspect that can be easily noticed by going through the article on hand hygiene of quantitative research is that it is non-statistical (Fortune et. el, 2013). It cannot be used to make generalized conclusion not only in nursing but also other aspects. The article uses past information on reported cases of increased infection in health care setting with the main reason being poor hygiene of the hands.

## Advantages and Disadvantages of the Research Approach

Several merits and demerits come along with the use of the different techniques of research. The use of quantitative technique allows for accurate data and thus forms a good base of agreeing or disagreeing with the hypothesis as seen by the provided statistical data in the article. The other advantage accruing to the use of this method is that it has maintained its structure for a long period and therefore commonly used all over the world.

The carrying put of experiments in a hospital t determines the importance of hand hygiene cannot be taken lightly as it is a crucial issue. It means that research carried out using this technique is applicable in various places around the world. Quantitative techniques take into account the filtration of external factors (Cramer, 2011).

However, the use of this technique also has some disadvantages. It is an expensive method to apply and time consuming for that matter. It requires a plan well that is carefully laid for the achievement of dependable information for analysis. It also requires the use of statistical analysis that is extensive thus brain teaser to majority of scientists or rather researchers as they are not statisticians. It has a limitation on the number of areas that can apply this type of research as it gives extremely little room or none at all for uncertainties.

The use of qualitative analysis proves useful in those types of research that are too complex for a simple answer or explanation to be given. Scope of coverage is the other merit associated with the use of qualitative analysis. It, usually, involves research over a wide area thus more information can be derived compared to quantitative analysis and thus more realistic conclusions can be drawn main concern and from the research. In this method, sample size is not, usually, the main concern. Therefore, it can be used in areas where time is limited and lengthy research is not applicable.

However, the use of this technique has some disadvantages. Due to the generalization involved, the researcher has to be extremely careful to ensure accurate conclusions are achieved. In the case of study of the article by Fortune (2013), it is clear that in the conclusion part generalization and fixed

conclusions are avoided due to the level of uncertainty involved. Qualitative research is, usually, unique and therefore application is limited and also the aspect of replication by other researchers.

## Justifying the Research Method

In the field of research, both the techniques are important in the provision of crucial information for technical and long term solutions to specific problems facing the society. Science is about establishing problems through research and formulating strategies and techniques to enact the strategies. Hand washing effect on the health status of individuals in the health care setting is a sensitive issue and requires precision of the highest level. Science is all about proof and the best way to achieve this is through experimental studies and statistical analysis of data. A comparison of the current hand hygiene state of many hospitals requires experiments to obtain data, carry out an analysis and thus draw the necessary conclusions (Davies, 2009). Real science requires precision and proof for any conclusion and changes to be made. The improvement of hand hygiene in health care setting requires that the urgency for doing the act is show through real data that allows for comparison to show improvement. For this reason, quantitative research technique is vital when dealing with the scientific issue. Nevertheless, importance of qualitative research cannot be overlooked as it at some point facilitates the research in quantitative research.

## Conclusion

The quest to make the world a better place requires intensive and continuous research. It is imperative for a researcher to carefully identify

several aspects while carrying out research for the purpose of choosing the best research technique to apply. The outcome of the research is highly dependable on the methods and techniques used in all the stages of research. Crucial changes affecting the lives of individuals all over the world depends on this and therefore accuracy should not be compromised. A good example of this is in hand hygiene where establishment of solution to this problem will see to it that health status if people are improved and reduction in treatment costs will be achieved. This is so as extended hospitalization of the affected will be reduced.

## References

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Critique Template for a Qualitative Study

NURS 6052

Article reference (in APA style): A qualitative exploration of r [Infect Control Hosp Epidemiol. 2009] - PubMed - NCBI. (n. d.). Retrieved from http://www. ncbi. nlm. nih. gov/pubmed/19344264

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What is a critique? Simply stated, a critique is a critical analysis undertaken for some purpose. Nurses critique research for three main reasons: to improve their practice, to broaden their understanding, and to provide a base for the conduct of a study.

When the purpose is to improve practice, nurses must give special consideration to questions such as these:

- Are the research findings appropriate to my practice setting and situation?
- What further research or pilot studies need to be done, if any, before incorporating findings into practice to assure both safety and effectiveness?
- How might a proposed change in practice trigger changes in other aspects of practice?

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QUALITATIVE RESEARCH CRITIQUE

- Research Issue and Purpose

What is the research question or issue of the referenced study? What is its purpose? (Sometimes ONLY the purpose is stated clearly and the question must be inferred from the introductory discussion of the purpose.)

The research question is what effect does hand hygiene have on the spread of bacteria in a health care setting?

- Researcher Pre-understandings

Does the article include a discussion of the researcher’s pre-understandings?

What does the article disclose about the researcher’s professional and personal perspectives on the research problem?

The article explains several observed aspect of the effects of poor hand hygiene on the spread of bacteria that cause several diseases in a health care setting. The researcher seems to have prior knowledge about the issue and thus tries to gather information about the same in attempt to solve the issue.

- Literature Review

What is the quality of the literature review? Is the literature review current, relevant? Is there evidence that the author critiqued the literature or merely reported it without critique? Is there an integrated summary of the current knowledge base regarding the research problem, or does the literature review contain opinion or anecdotal articles without any synthesis or summary of the whole? (Sometimes the literature review is incorporated into the introductory section without being explicitly identified.)

According to the information got from the article, thorough literature review was carried out. It involves data from various parts for the purpose of comparison and improvement of accuracy. The information reviewed involves past and present times to show the effect of exposure to bacteria in a health care setting and how it can lead to increased treatment periods and costs. To avoid repetition, the researcher has also incorporated current research done else related to the same and useful data can be got from the same.

- Theoretical or Conceptual Framework

Is a theoretical or conceptual framework identified? If so, what is it? Is it a nursing framework or one drawn from another discipline? (Sometimes there is no explicitly identified theoretical or conceptual framework; in addition, many “ nursing” research studies draw on a “ borrowed” framework, e. g., stress, medical pathology, etc.)

A conceptual framework is drawn in this case. The nurses are addressed as they are the ones who attend closely to the patients in terms of cleaning of wounds and administering of drugs to the patients for that matter. Therefore, nurses stand a high chance of transferring harmful bacteria from one patient to the other through such processes.

- Participants

Who were the participants? Is the setting or study group adequately described? Is the setting appropriate for the research question? What type of sampling strategy was used? Was it appropriate? Was the sample size adequate? Did the researcher stipulate that information redundancy was achieved?

The participants this case are the physicians, nurses, and the patients. The performed experiment ensures that all the relevant people for the experiment are involved. Sampling is done well in the health care setting.

- Protection of Human Research Participants

What steps were taken to protect human research subjects?

The first thing is the acquisition of license to perform such tests. It also involve a good relationship with the people by explaining it is all about helping the society.

- Research Design

What was the design of the study? If the design was modeled from previous research or pilot studies, please describe.

Two main designs were involved in this case. These are case study and survey review. The model in this technique does not involve a lot of complexity and therefore the simple methods are applied.

- Data Collection/Generation Methods

What methods were used for data collection/generation? Was triangulation used?

Data collection techniques involved information stored in hospitals and retrieving information from previously done research.

- Credibility

Were the generated data credible? Explain your reasons.

The data generated in this case was credible. It is so because it involved the use of real data in hospitals and the carried out research on other parts of the world before making a generalized conclusion.

- Data Analysis

What methods were used for data analysis? What evidence was provided that the researcher’s analysis was accurate and replicable?

Several methods involved in statistics was used in the analysis. Central tendency, mean and variance were the main things among others that could provide crucial information on drawing critical conclusions. A normal trend that is real and evident by hygiene level maintained in different hospital proved dependency on the drawn conclusion.

- Findings

What were the findings?

The findings were that the hand hygiene is important in the attempt to reduce the level of bacterial infection in health care setting.

- Discussion of Findings

Was the discussion of findings related to the framework? Were those the expected findings? Were they consistent with previous studies? Were serendipitous (i. e., accidental) findings described?

Cleaning the hands ensures that germs found on surface cannot be transferred to the patients. Also, it is clear that poor hand hygiene can encourage the transfer of germs from one patient to the other through wounds and such thus lengthening the healing period.

- Limitations

Did the researcher report limitations of the study? (Limitations are acknowledgments of internal characteristics of the study that may help explain insignificant and other unexpected findings, and more importantly, indicate those groups to whom the findings CANNOT be generalized or applied. It is a fact that all studies must be limited in some way; not all of the

issues involved in a problem situation can be studied all at once.)

The researcher did not mention any limitation in the article.

- Implications

Are the conclusions and implications drawn by the author warranted by the study findings? (Sometimes researchers will seem to ignore findings that don’t confirm their expectations as they interpret the meaning of their study findings.)

The conclusions are warranted by the study as it gives clear information about the problem and several techniques that can be used to solve the predicament.

- Recommendations

Does the author offer legitimate recommendations for further research? Is the description of the study sufficiently clear and complete to allow replication of the study? (Sometimes researchers’ recommendations seem to come from “ left field” rather than following obviously from the discussion of findings. If a research problem is truly significant, the results need to be confirmed with additional research; in addition, if a reader wishes to design a study using a different sample or correcting flaws in the original study, a complete description is necessary.)

The researcher acknowledges that more research on the same should be carried out to ensure clear and more accurate information is achieved. A good example of this is the knowledge on specific bacteria more prone in

certain areas thus having the necessary antibiotics to prevent infection.

- Research Utilization in Your Practice

How might this research inform your practice? Are the research findings appropriate to your practice setting and situation? What further research or pilot studies need to be done, if any, before incorporating findings into practice to assure both safety and effectiveness? How might the utilization of this research trigger changes in other aspects of practice?

The findings prove important in the field of nursing as the nurses are the ones who attend and spend most times with the patients. it emphasizes that not only the lives of the patients are endangered in this situation but also the health of the workers.

Critique Template for a Quantitative Study

NURS 6052

Article reference (in APA style): Handwashing | Practice | Nursing Times. (n. d.). Retrieved from http://ccs. webcrawler. com/ClickHandler. ashx? ld= 20141008&app= 1&c= Info. wbcrwl. 305. 53&s= webcrawler302&rc=&dc=&euip= 154. 122. 6. 91&pvaid= 450e0aaf643f4507be14fd46d17000b0&dt= Desktop&fct. uid= 1ac65c45ee304de4bed62063b6618a4b&en= pZcMbcTeA %2bgdPVAi2rQXJOLD %2fqwza5m5gzCoOLSWIR2inwpU1QtcfLuwN32qbQYcdM%2bjWK %2b6vM0%3d&du= www. nursingtimes. net%2f%2fhandwashing%2f203785. article&ru= http%3a%2f%2fwww. nursingtimes. net%2fnursing-practice %2fclinical-zones%2finfection-control%2fhandwashing%2f203785.

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QUANTITATIVE RESEARCH CRITIQUE

- Research Problem and Purpose

What are the problem and purpose of the referenced study? (Sometimes ONLY the purpose is stated clearly and the problem must be inferred from the introductory discussion of the purpose.)

Poor hand hygiene has adverse effects on the health status of patients in the health care setting. Good hand hygiene is necessary for the well-being of patients in a hospital.

- Hypotheses and Research Questions

What are the hypotheses (or research questions/objectives) of the study? (Sometimes the hypotheses or study questions are listed in the Results section, rather than preceding the report of the methodology used. Occasionally, there will be no mention of hypotheses, but anytime there are inferential statistics used, the reader can recognize what the hypotheses are from looking at the results of statistical analysis.)

Hand hygiene has an effect on the spread of harmful bacteria in a health care setting.

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knowledge base regarding the research problem, or does the literature review contain opinion or anecdotal articles without any synthesis or summary of the whole? (Sometimes the literature review is incorporated into the introductory section without being explicitly identified.)

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- Population

What population was sampled? How was the population sampled? Describe the method and criteria. How many subjects were in the sample?

The population sampled in this case is the patients visiting a certain health care setting. A total of 317 patients were analyzed and subjected to varied bacteria by different level of hand cleansing techniques by the people attending to them.

- Protection of Human Research Participants

What steps were taken to protect human research subjects?

The first step is acquisition of license from the relevant authorities. The other thing is a prior research of the bacteria involved and thus prepares an antidote to help those who will be affected.

- Research Design

What was the design of the study? If the design was modeled from previous research or pilot studies, please describe.

The design of the study was experimental. It involved the use of experiments carried out involving the physicians and nurses as it is normally in a health care setting.

- Instruments and Strategies for Measurement

What instruments and/or other measurement strategies were used in data collection? Was information provided regarding the reliability and validity of the measurement instruments? If so, describe it.

Measurement tools involved diagnostic measuring equipments such as microscopes and syringes for obtaining blood samples of the patients. Data collection techniques involved the filling of books and formulated tables for the patients subjected to the conditions.

- Data Collection

What procedures were used for data collection?

Data collection was experimental and therefore a table filling from the tests was the main technique.

- Data Analysis

What methods of data analysis were used? Were they appropriate to the design and hypotheses?

Statistical data analysis was used from the numerical data obtained from the experiment. Values such as mean, variance, and standard variation were easily obtained form such calculations.

- Interpretation of Results

What results were obtained from data analysis? Is sufficient information given to interpret the results of data analysis?

The results clearly indicated that there is a level of transfer of bacteria in a health care setting through the hands. The effects of these infections can be reduced by the adoption of good hand washing techniques.

- Discussion of Findings

Was the discussion of findings related to the framework? Were those the expected findings? Were they consistent with previous studies? Were serendipitous (i. e., accidental) findings described?

Cleaning the hands ensures that germs found on surface cannot be transferred to the patients. Also, it is clear that poor hand hygiene can encourage the transfer of germs from one patient to the other through wounds and such thus lengthening the healing period.

- Limitations

Did the researcher report limitations of the study? (Limitations are acknowledgments of internal characteristics of the study that may help explain insignificant and other unexpected findings, and more importantly, indicate those groups to whom the findings CANNOT be generalized or applied. It is a fact that all studies must be limited in some way; not all of the issues involved in a problem situation can be studied all at once.)

The major limitation in this research is that it did not consider the variation in the strength of people to fight germs. Weak people were easily infected and could give false information and vice versa.

- Implications

Are the conclusions and implications drawn by the author warranted by the study findings? (Sometimes researchers will seem to ignore findings that don’t confirm their hypotheses as they interpret the meaning of their study findings.)

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