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Quality of Work among Medical Technologists in Selected Urban Areas Caused by Exhaustion, Understaffing and Work Performance

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ABSTRACT

The healthcare industry plays a pivotal role in maintaining the well-being of citizens. However, with the COVID-19 pandemic, it is ironic that the physical and mental condition of those in pursuit of health promotion is now compromised as healthcare professionals (HCP) suffer chronic fatigue. Studies have proven that exhaustion and understaffing negatively influence the well-being of HCPs, and the status thereof is reflected by the quality of their work performance. Despite all these, little is still known if such outcomes also occur in urbanized areas such as Region III of the Philippines, let alone focus on the effects on medical technologists.

Hence, with its objective to assess the quality of work of medical technologists, the current study employed a correlational quantitative research design, and involved participants who are working medical technologists from the urban sector of Region III.

The results of the study showed that the participants experience understaffing and often feel exhausted in their respective workplaces, supported by the correlational test results that understaffing and exhaustion have a high positive correlation (p=0.000). However, despite being exposed to both exhaustion and understaffing, their work performances are only sometimes affected because no significant relationship was discovered between exhaustion and work performance. Interestingly, it was also discovered that understaffing and work performance have a low positive correlation (r=0.218). Therefore, though understaffing and exhaustion come hand-in-hand, understaffing may slightly enhance the medical technologists' quality of work, while exhaustion bears no significance (p=.100) on their work performance.

Keywords: understaffing, exhaustion, work performance, medical technologists

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1 INTRODUCTION

This chapter includes the background of the study, the statement of the problem, the objectives of the study, the hypotheses of the study, the significance of the study, the scope of the study, and the definition of terms.

1.1 Background of the Study

One of the events that required a substantial change in the lifestyle of people across the globe, including the Philippines, was the occurrence of the COVID-19 pandemic. As a significant health crisis of the 21st century, this pandemic and its repercussions lead people to realize the importance of health as a vital component of intrapersonal and societal well-being.

Being the governing body responsible for international health promotion and global health responses, the World Health Organization (WHO) was at the forefront of this cause, even before the pandemic. Throughout time, the concept of health has revolutionized to accommodate the evolving perspectives. Health was initially understood as the mere absence of disease as per its Biomedical Concept. However, at present, the most widely accepted Holistic Concept of Health appropriately considers the physical, mental, and social well-being of an individual as equally essential elements of the overall health status of a person.

In line with these concepts, the pioneers of health promotion were healthcare professionals. Over the past years, utmost priority was directed to their benefit as prime movers of the healthcare industry. Thus, enhancing various aspects of the healthcare system became a worldwide movement. In the United States, these professionals specifically constituted the Community Health Worker (CHW) sector of their economy. In 2012, 15 American states ratified laws concerning Community Health Worker (CHW) workforce development and financing, while seven others enacted laws allowing Medicaid reimbursement for specific Community Health Worker (CHW) services (Centers for Disease Control, 2012).

Locally, laws such as Republic Act No. 7305 or the Magna Carta of Public Health Workers were passed for the benefit of health workers as recognition of their essential responsibility in maintaining a high-quality healthcare system.

However, in the circumstance of the COVID-19 pandemic, it was intriguing that healthcare professionals were exhibiting poorer health and performance outcomes despite prior efforts dedicated to their empowerment. Shaukat et al. (2020) reported that this phenomenon was a likely result of both the physical and the mental consequences of continually catering to the needs of COVID-19 patients in isolation facilities. In line with the Holistic Concept of Health earlier presented, the distress experienced by healthcare professionals took a toll on their overall health status as it directly affected their mental aspect. Such controversy existed because the welfare of the healthcare professionals themselves was at stake. Ironically, because of the pursuance of their supposed agenda, the individuals positioned at the frontlines of health promotion were now also suffering from health infirmities they were tasked to help resolve in the first place.

The intrigue that surrounded this subject matter led to various scholarly attempts that investigate the reasons for this worldwide trend. Healthcare exhaustion was detrimental to healthcare professionals' well-being and performance (Wang et al., 2021; Zhang et al., 2020; & Opoku et al., 2021). This was because their occupation predisposed them to chronic physical and mental fatigue (Maslach & Leiter, 2016). In response to these observations, Lasater et al. (2021) further observed that employee understaffing was a concurrent phenomenon that may occur with

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healthcare exhaustion. Gohar & Nowrouzi-Kia (2020) agreed by stating the deleterious consequences of understaffing on the long-term progression of the healthcare system as a whole. Garrett (2008) further supported these findings by linking medical errors and employee exhaustion to undermanned healthcare procedures.

Moreover, Cramer et al. (2006) further diversified this field of study by incorporating the novel dimension of demographics. Cramer et al. (2006) realized that demographics play a crucial role in understaffing and fatigue as its effects vary in rural and urban healthcare settings. Nevertheless, even studies that pertained to the same aspect of the subject matter still yielded inconsistent results. Though research findings that pertained to the rural sector were united in their claim of how severe understaffing and fatigue negatively influence healthcare quality of work, otherwise was seen in studies focusing on the urban sector. This matter was observed in the studies of Saijo et al. (2013) and Ameh and Dankyau (2015), where it was further expounded.

Generally, all these researchers and their studies demonstrate that exhaustion and understaffing effects may vary when socioeconomic factors are considered, though further elaboration for a clearer understanding of this phenomenon is still necessary, especially in the urban area.

Constricting the viewpoint to the research locale, the Philippines was not an exception also to the global occurrences mentioned as the healthcare sector was also highly regarded for its purpose. One of the laws passed for the benefit of healthcare workers is Republic Act No. 5527 or otherwise known as The Philippine Medical Technology Act of 1969. Republic Act No. 5527 and its subsequent amendments recognized medical technologists or *medical laboratory scientists* as crucial elements of the Philippine healthcare workforce for their direct involvement in the collection, processing, and analysis of clinical isolates, among others. Medical technologists proved their practice essential with these sworn duties, especially during the pandemic. However, as stated earlier, the Philippine setting also followed the global trend established. Medical technologists also experienced chronic exhaustion due to the increased demands of their occupation.

Despite the abundance of scholarly works that discussed the subject matter at hand, no formal study has yet investigated the medical technologist sector of the healthcare setting, more so on the research locale. Therefore, in line with the aim of the Philippine Medical Technology Act to promote the welfare of Medical Laboratory Scientists, the study identified how understaffing and exhaustion influenced the quality of work of medical technologists in the urban sectors.

1.2 Statement of the Problem

This study assessed the quality of work and its correlation to exhaustion and understaffing among medical technologists working in the urban sector of Region III.

Specifically, it answered the following questions:

1. What is the extent of understaffing, exhaustion, and work performance, based on the workload of the medical technologists in the urban sector?
2. What is the correlation of understaffing, physical and emotional exhaustion to the quality of work of medical technologists?

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1.3 Objectives of the Study

General Objective:

In view of the fact that exhaustion was a factor that influenced working conditions, the research evaluated the quality of work among medical technologists from urban areas due to exhaustion and understaffing.

Specific Objectives:

The study:

- Evaluated the extent of understaffing, exhaustion, and work performance, based on workload of the medical technologists in the urban sector of region 3
- Correlated understaffing, physical and emotional exhaustion to the quality of work of medical technologists

1.4 Hypothesis of the Study

H_O: There is no significant relationship between the quality of work caused by exhaustion and understaffing among medical technologists of the urban healthcare sector in Region III

H_a: There is a significant relationship between the quality of work caused by exhaustion and understaffing among medical technologists of the urban healthcare sector in Region III

1.5 Significance of the Study

The findings of this study may be used by authorities in the assessment of how exhaustion affected the quality of care given to patients by medical technologists from urban areas. As this study considered factors such as limited staffing and the workload given to these medical technologists in their respective laboratories and areas, it demonstrated what the turnout of these factors entailed on the work performance of a medical technologist, especially in the circumstance of a global pandemic. This study benefited the healthcare system by pinpointing which aspects should be improved, with the results to be used by the concerned policymakers to decide what approach and guidelines these problems could be solved with.

This was also of significance to the public if the hypothesis of this study was proven as this can entail new guidelines to be implemented to ensure that better patient care will be delivered in these areas of concern by solving a root cause of a lack thereof. With better patient care comes better patient feedback, resulting in better patient healthcare-seeking behavior amongst residents of Region III. This behavior, in turn, may lead to positive health statistics that could serve as motivation in continuing the improvement of the issue of exhaustion and understaffing in medical technologists.

1.6 Scope of the Study

The research examined the correlation between the quality of work with exhaustion and understaffing among medical technologists. The research was conducted at secondary-level laboratories in specific urban areas of Region III from August 2021 to May 2023. The urban sectors of Region III included but were not limited to the Cities of San Fernando and Angeles in Pampanga and the Cities of Bustos, Baliwag, San Rafael, and Pulilan in Bulacan.

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The participants of the study were limited to medical technologists as the researchers aimed to aid the inadequate sampling of the current research that focused only on nurses and physicians. The questionnaire consisted of three sections: Exhaustion, Understaffing, and Individual Work Performance. The researchers utilized the Copenhagen Burnout Inventory (CBI), Individual Workplace Performance Questionnaire (IWPQ), and an adapted questionnaire from a study by Chamaru de Alwis to assess the quality of work among the medical technologists caused by exhaustion and understaffing. The factors measured only included the physical and psychological exhaustion factors of personal burnout, work-related burnout, and client-related burnout and their effect on the quality of work. Snowball sampling was employed by the researchers among the medical technologists in the specific health facilities of Region III to measure the extent of understaffing and exhaustion.

1.7 Definition of Terms

The following terms are conceptually defined for better understanding of the study:

Absenteeism contributes to a decreased productivity and service quality of an institution. This can be observed in workplaces that are understaffed and where heavy workloads are given.

Burnout is a result of emotional exhaustion, depersonalization, and reduced personal accomplishment caused by understaffing based on the Multidimensional Theory of Burnout.

Compassion Fatigue is a hazard resulting from burnout that is considered to be occupational in the healthcare setting. This differs from burnout syndrome as it affects the quality of care a healthcare provider delivers to patients.

Coronavirus Disease 2019 or COVID-19 is a respiratory disease that is caused by a novel coronavirus. The COVID-19 pandemic caused a significant health crisis that resulted in the burnout and exhaustion of today's healthcare workers.

Emotional Exhaustion is a state of feeling emotionally drained and tired due to stress accumulation from the work environment. Emotional exhaustion can be a sign of burnout that may be manifested by decreased energy, poor sleep, and lack of motivation, irritability, and absentmindedness. It is correlated to the quality of work of medical technologists.

Exhaustion is the state of being tired and worn out in all dimensions – mentally, physically, emotionally, socially, and spiritually. This state of tiredness is multifactorial, influencing the working conditions of the medical technologists. It is one of the independent variables in the study.

Fatigue is a constant and persistent exhaustion that may be chronic, with a possibility to affect the medical technologists' productivity and daily tasks. It is prevalent in the healthcare setting along with exhaustion and burnout.

Health is not merely the absence of disease or impairment, but it is the state of mental, physical, and social well-being. It refers to the ability of a medical technologist to self-manage and adapt in the face of physical, mental, and social challenges. It is also affected by exhaustion and understaffing.

Healthcare refers to the diagnosis of multidimensional illnesses and diseases, its treatment, recovery, and prevention. It deals with primary (community care), secondary (hospital-based care), and tertiary (specialist hospitals) clinical care.

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Healthcare Provider or Healthcare Human Resources are the medically trained professionals that provide healthcare services to patients who seek medical care. Medical technologists are considered as healthcare providers and are the subjects of the current study.

Healthcare Understaffing is the increase in patient demand and shortage in available healthcare providers. This is due to inequitable healthcare distribution and may lead to low-quality health outcomes and poor healthcare delivery. It is one of the independent variables in the study.

Healthcare Quality is the appropriate, consistent, and competent services provided by the healthcare professionals to patients that may be compromised due to factors such as exhaustion and understaffing. This is the dependent variable of the current study.

Individual Work Performance Questionnaire is a survey tool that consists of 18 questions that measures the main dimensions of job performance. Out of the 18 questions indicated in this survey, only 10 was used in the current study to evaluate individual work performance in the workplace of each participant.

Medical Technologists are registered healthcare professionals, aged 23 to 59, that are trained in performing clinical laboratory procedures from Region III urban laboratories and have at least one year of experience.

Pandemic is an outbreak or an epidemic of infectious disease that spreads to several countries worldwide, affecting a large number of people An example of this is the COVID-19 pandemic, which affects healthcare delivery as it causes understaffing.

Republic Act No. 4688 Administrative Order 2007-0027 is an act concerning the rules and regulations governing the licensure and the regulations of clinical laboratories in the Philippines. It indicates the service capability of secondary clinical laboratories.

Stress occurs when the body's homeostasis is challenged wherein the stress system, located in the central nervous system, mediates the response. It may stem from work demands that contribute to the condition of a person, be it physical, pathological and psychosocial.

The Philippine Medical Technology Act of 1969 or Republic Act 5527 is an act that discusses the registration of medical technologists, their practices, and other purposes. It is one of the laws that are passed for the benefit of healthcare workers, specifically medical technologists.

Understaffing is the lack of medical technologists that affect the fulfillment of tasks in a laboratory. It influences the overall function of a working unit and the quality of work of medical technologists.

Urban is defined as an area that pertains to cities and the communities in the cities where the size of the population per barangay is 5,000 or more. If the majority of the barangays in the municipality has a population of 5,000 or more, the municipality is considered urban.

Workload is the interconnection of the required resources in carrying out a task and the available resources. It is the amount of work that is assigned to and expected from a medical technologist. Workload is measured to assess the risk of burnout and exhaustion and their correlation to quality of work.

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Work Performance is a variable that is significantly influenced by syndromes such as burnout and compassion fatigue that may affect a healthcare worker's quality of work

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2 METHODOLOGY

This chapter presents the research design, the sampling technique, the instrumentation to be used, the data gathering procedures, the ethical considerations made for this study, and the statistical analysis method utilized for data interpretation.

2.1 Research Design

The study employed a Quantitative Research Design. Notably, it was a Descriptive Correlational type of quantitative research that aimed to identify whether the understaffing and exhaustion in urban healthcare areas impacted the quality of work of medical technologists.

2.2 Sampling

Non-probability Sampling Design, particularly Snowball Sampling, was utilized for this research. Due to COVID-19 pandemic restrictions, target participants that best fit the research criteria were initially chosen based on their convenient accessibility and proximity to the researchers. Consequently, the selected participants were asked to assist the researchers in further identifying other potential participants for the study.

The researchers contacted different secondary clinical laboratories within Region III through e-mail and telephone calls that gathered the estimated target population size for the study. The study also utilized the Raosoft sample size calculator that obtained the minimum sample size. With a 1366 target population size, 95% confidence interval, 50% response distribution, and 7% margin of error, the calculated minimum sample size is 172. The study employed the aforementioned chain-referral sampling method until the sample size was reached.

Medical technologists in the urban healthcare sector were the best-suited subjects of analysis for this study that addressed the inadequate sampling of the existing studies, which focused only on nurses and physicians. Specifically, the participants were limited to medical technologists who worked in urban secondary clinical laboratories of Region III. After the participants accepted the agreement, the research survey questionnaire and formal consent forms were sent through their email.

2.2.1 Inclusion Criteria

Participants chosen for this study were licensed medical technologists between the ages of 23 and 59 who were employed in DOH-licensed clinical laboratories within the urban sector of Region III, the Philippines, with at least a year of employment in their respective institutions. The clinical laboratory could be of any classification based on ownership (government or private), function (clinical pathology or anatomic pathology), and institutional character (freestanding or institution-based), as long as it was classified as secondary based on its service capability.

As stipulated by Republic Act No. 4688 Administrative Order 2007-0027, secondary clinical laboratories are only licensed to perform Qualitative and Quantitative Platelet Determination, Routine Hematology, Routine Urinalysis, Routine Fecalysis, and Routine Clinical Chemistry. Therefore, procedures in the domains of Immunology, Microbiology, or any other special tests for Chemistry and Hematology cannot be performed by secondary laboratories.

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2.2.2 Exclusion Criteria

Medical laboratory technicians, laboratory personnel, retired medical technologists, and participants who were not able or were not willing to sign informed consent were excluded from this study. Moreover, medical technologists working in the rural sector and/or outside Region III were also excluded.

2.2.3 Withdrawal Criteria

Participation in the research study was voluntary. Participants were allowed to withdraw their consent and discontinue their participation or revoke authorization to collect information at any time without penalty, provided that they informed the researchers beforehand. The request to withdraw consent and/or revoke authorization must be written by the participant and signed by at least two researchers. In the circumstance wherein the participant wished to withdraw from further research interventions but authorized the continued collection and use of the information they previously consented to, the data collected prior to withdrawal were still included in the research. In the circumstance wherein the participant withdrew from all research study components and revoked the authorization altogether, all data and information disclosed by the participant were excluded from the analysis.

2.3 Instrumentation

This study made use of an adapted and developed questionnaire that was composed of three sections: Understaffing, Exhaustion, and Individual Workplace Performance, which were all answered using the Likert Five-scale Criteria either from “strongly agree” to “strongly disagree” or “to a very high degree” to “to a very low degree.” These sections of the developed questionnaire were all based on previously used research questionnaires.

Prior to the first section of the questionnaire, demographics about the medical technologist were asked. Given that the study has not correlated any of the demographics to the results, only the following were asked: Occupation, Province of Workplace, and Laboratory level of Workplace. The participant was given the freedom of whether their name would be included in the submission since indicating this was optional as the study will omit identifiers during data processing.

In the first section, the questions under understaffing were all based on the workload aspect of the questionnaire used in a paper by Chamaru De Alwis (2013) on the impact of nursing shortage on job outcomes. This study made use of two questionnaire sets. The first questionnaire, which the nurses answered, was composed of five sections: Demographics, Job Satisfaction, Work Stress Level, Ability to Experience the Emotions of Others, and Workload.

The present study, on the other hand, adopted the fifth section related to workload and modified it to fit the said study. Other questions used in this survey but were not under the “workload” category were modified to be answered by the same Likert scale of the previous questions. Other modifications from this section were just changes to the specifics, which made the questions more medical technology-related, understaffing-related, and topic-related to the present study.

The next section of the questionnaire was the “Exhaustion” section, based on the Copenhagen Burnout Inventory (CBI) by Kristensen et al. (2005), which consisted of questions involving

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Personal, Work-related, and Client-related Burnout. In the present study, all three sections were utilized but modified to be more specific for medical technologists. With these modifications, the Client-related Burnout questions were also made more appropriate by making them Patient-related Burnout instead. Also, given that the study only involved exhaustion, the questions were adjusted to be more focused on that matter rather than burnout in general. Aside from this, the Exhaustion section questions were also re-arranged so that the personal, work, and patient-related questions were positioned randomly to avoid question-order bias.

Lastly, the Individual Workplace Performance section of the questionnaire was based on the 18-item Individual Work Performance Questionnaire formulated by Linda Koopmans et al. (2015). This portion of the questionnaire was also modified to be more fit for understaffing and exhaustion on the participants' self-assessed quality of work. This portion of the questionnaire was necessary as this served as the basis for the medical technologist's quality of work.

From all questionnaires used as a basis, 10 questions were collected for each of the three sections. The compiled, modified, and adapted survey questionnaire, comprised 30 questions, utilized a web-based platform, Google Forms, and was distributed through social media and e-mail by a link deployed to medical technologists from secondary laboratories of urban areas in Region III.

2.4 Data Gathering Procedure

The web-based survey was first disseminated to the research participants through a link to access the questionnaire. This data gathering instrument was then distributed until the ideal sample size was attained. The survey was answered at the participants' most convenient time. The researchers gave an ample amount of time for the participants to complete the information needed, wherein the accomplishment of the survey took approximately five to ten (5 to 10) minutes only. The duration of accomplishment of the survey was the extent of participation of the individuals in the study. However, a maximum duration of one (1) month was given to aid to circumstances wherein discrepancies in their answers may need to be reassessed.

This study utilized the criteria mentioned above in the sampling section to meticulously filter the participants, which is a step that was done to ensure that only participants that meet the criteria were included in the final tallying of results since the survey is accessible to anyone through the link deployed. These data collected will then be subjected to the statistical analysis method utilized in this study, discussed in the last section of this chapter.

2.5 Ethical Considerations

The researchers obtained the ethical approval of the Ethics Review Board of the Faculty of Pharmacy before proceeding with data collection. The instruments used in gathering were the Copenhagen Burnout Inventory (CBI) introduced by Krinstensen et al., Individual Workplace Performance Questionnaire (IWPQ) by Linda Koopmans et al., and an adapted questionnaire from a study by Chamaru de Alwis. The authors of the questionnaires were sent with a query through email regarding their authorization and consent to use and modify their questionnaires that will be used as a survey for the study (see Appendix A).

This study utilized the ethical principles of informed consent, confidentiality, and autonomy. The participants, composed of the medical technologists from urban hospitals in Region III, were presented with a consent form composed of information regarding the voluntary participation, risks

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and benefits, rights and responsibilities of the participants, and procedure of the data collection and analysis, along with the nature, objective, and the purpose of the research. In cases wherein the participants had questions and inquiries, the researchers' contact information such as names, e-mail addresses, and contact numbers were included, as well.

Confidentiality was maintained through the collection of the participants' personal information that was significant to the study conducted. The information and data that were collected remained restricted from access to outside parties throughout and after the duration of the study. The researchers ensured that no information was disclosed and disseminated to unauthorized persons. The data collected were used for research purposes written on the consent form. In the Results and Discussion section, the participants' hospital or laboratory affiliations were not disclosed, which adhered to the agreement established by both parties. The survey form that contained the confidential data was kept private and exclusive to the researchers directly involved in the study.

Participants were allowed to exercise their right to withdraw from the study at any given point. The principle of autonomy was maintained throughout the study, and the participants were permitted to make decisions as long as the research team was informed. The participant also had the privilege to provide or not provide their reason for withdrawal.

2.6 Data Analysis

This section aided in answering the hypothesis through the determination of the statistical relationship between the quality of work and exhaustion, as well as the quality of work and understaffing among medical technologists.

Data gathered from the responses to the survey questionnaire were grouped, tabulated, and organized with the use of Microsoft Excel. The data were grouped into two: mainly descriptive statistics and inferential statistics, wherein descriptive statistics included the information about the participants, while inferential statistics consisted of the responses per participant. The Microsoft Excel file would be imported into the SPSS Statistics Software, which ran a simple linear regression analysis that distinguished the correlation between the independent (understaffing, exhaustion, and work performance) and dependent (quality of work) variables.

A table for descriptive statistics, which consisted of the participant’s information mainly age, gender, and region of workplace, was organized. Frequency and percentage were obtained through the use of SPSS Statistics Software which was further used to compute for the measure of central tendency, specifically mean, median, and mode, with the use of SPSS Statistics Software, as well.

A table for inferential statistics, which consisted of the responses of the participants, was divided per section of the questionnaire, specifically by Understaffing, Exhaustion, and Individual Performance.

These data were imported into the SPSS Statistics Software and ran on simple linear regression. The functions on the top menu: Analyze > Regression > Linear was used to input the independent and dependent variables, which generated tabulated results of the linear regression analysis. In the correlation matrix, the Pearson Correlation determined if there was a correlation between the independent and dependent variables. The ANOVA matrix indicated if the independent variable significantly affected the dependent variable. The sig. column represented the p-value, in which a p-value less than alpha (0.05) indicated a statistically significant relationship between the two variables. Results from the coefficient matrix allowed the researchers to determine the extent of

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change in the value of the independent variable that affected the dependent variable. The 't' column indicated if a significant relationship between the two variables existed. In contrast, the Unstandardized B column indicated the direction and extent of the relationship of the independent to the dependent variable.

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3 RESULTS AND DISCUSSION

This chapter presents an interpretation of the data obtained by the researchers and the ideas that these results suggest in answering the research problems.

3.1 The Extent of Understaffing of the Medical Technologists in the Urban Sector

Table 1 The Extent of Understaffing of the Medical Technologists in the Urban Sector

Understaffing	Mean	Interpretation
In the last month, my shifts were often extended because of the lack of another medtech.	2.1491	Agree
I had to do more mandatory overtime this month due to the lack of manpower.	2.2895	Agree
I have done more voluntary overtime this month.	2.4561	Agree
The staff shortage in my workplace leads to my increased workload.	2.0351	Agree
Compared to the last month, the amount of overtime done by me has increased.	2.6228	Neutral
I often see multiple delays experienced in the laboratory.	2.9737	Neutral
In one shift, I often engage with non-medtech tasks (administration, housekeeping, statistics preparing, etc.)	2.4825	Agree
During the last month, there were several times I had to work on another medtech task, rather than what I am usually in charge with.	2.2105	Agree
I feel that there is a poor quality of supporting staff.	2.4737	Agree
There are tasks I do on my own even if they are to be done with the help of others.	2.3158	Agree
Overall Mean	2.4009	Agree

(Interpretation: 4.21-5.0 strongly disagree; 3.41-4.20 disagree; 2.61-3.40 neutral; 1.80-2.60 agree; 1.00-1.80 strongly agree)

Presented in Table 1 is the Extent of Understaffing of the Medical Technologists in the Urban Sector. The responses were gathered with their corresponding interpretation based on the Likert scale.

The statements, “I often see multiple delays experienced in the laboratory” with a mean of 2.9737 and “Compared to the last month, the amount of overtime done by me has increased” with a mean of 2.6228 were both interpreted as neutral. Concurrently, the participants agree with the following statements about the extent of understaffing among medical technologists: “In one shift, I often engage with non-medtech tasks” (x=2.4825); “I feel that there is a poor quality of supporting staff” (x=2.4737); “I have done more voluntary

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overtime this month" (x=2.4561); "There are tasks I do on my own even if they are to be done with the help of others" (x=2.3148); "I had to do more mandatory overtime this month due to the lack of manpower" (x= 2.2895); "During the last month, there were several times I had to work on another medtech task, rather than what I am usually in charge with" (x=2.2105); and "In the last month, my shifts were often extended because of the lack of another medtech" (x=2.1491). Table 1 also demonstrated that the participants generally agreed to these statements regarding their understaffing experience as an overall mean of 2.4009 was obtained.

As mentioned in the study by Metcalf et al. (2018), understaffing is defined as an instance when the organization failed to fulfill its purpose due to a lack of employees or a shortage of human forces. During times of understaffing in the healthcare system, there was a significant stressor on the human workforce, and the quality of care given to patients was significantly decreased (Hudson & Shen, 2015).

Among the statements in the questionnaire, the two neutral interpretations were the highest being the "Compared to the last month, the amount of overtime done by me has increased" and "I often see multiple delays experienced in the laboratory." The participants were neutral when it came to the increase in overtime in comparison to the last month. As mentioned by Metcalf et al. (2018), the increased workload may lead to ambiguity, confusion, overload, and conflict among healthcare workers. This claim was supported by Twigg et al. (2015), who stated that deviation from the primary goal of providing healthcare was observed when these attributes contributing to an increase in workload were experienced.

However, the results of the study did not completely coincide with this finding, as medical technologists were neutral about the increase in the amount of overtime for the past month. A probable cause was that the medical technologists had adapted to the amount of workload with the same amount of time given in order to still meet the goal of providing healthcare. This instance usually happens due to a lack of awareness and recognition of the effects of understaffing. In fact, Hudson and Shen (2015) mentioned that understaffing was an issue that received none to little recognition in the workplace but deserved utmost attention because of the drawback resulting in both the performance and the well-being of the Healthcare Human Resources. However, considering that their field of work required them to be more attentive to their outputs than to whom they could delegate their tasks to, they had to compensate while still delivering quality results to issue accurate reports about the patients' state of being.

Furthermore, the study's related literature indicated that health care providers are prone to medical errors such as interruptions and rushed treatment due to heavy workload from understaffing (Metcalf et al., 2018). Glette et al. (2017) also supported these claims as they mentioned that late administration of medication, difficulty in administering medication, and incorrect administration or non-administration of therapy were often observed when understaffing occurred. Metcal et al. (2018) even mentioned that the flow of information could either slow down or be even completely impeded, depending on the degree of understaffing.

However, the results of this study did not completely correlate to these literatures as well, as medical technologists were neutral in the delays, such as turnaround time and treatment, experienced in the laboratory. With the urge to maintain and provide proper healthcare to patients, medical technologists compensated to avoid turnaround time and treatment delays. Hence, the primary goal of giving quality care to patients was still met, despite the evident understaffing.

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On the other hand, the participants generally agreed with the rest of the statements on understaffing. The participants agreed that a lack of human resources resulted in the extension of their shifts and increased the likelihood of mandatory overtime. These findings were supported by the study of Green et al. (2013). They observed that absenteeism of healthcare professionals and other healthcare quality problems arose from factors such as understaffed workload levels. Tourigny et al. (2019) also expound on the validity of these claims. They stated that consequences of absenteeism caused by understaffing included burnout, stressful workloads, shifting rotation, and patient care standards. Results of the current study were consistent with these as the working hours of the medical technologists are often affected as they need to work for additional hours to accomplish the numerous workload due to lack of staffing.

In addition, participants also agreed that more voluntary overtime was done. This finding was coherent with the study of Metcalf et al. (2018), who stated that demand for services was continuously increased in a labor-intensive environment setting. A labor-intensive environment supposedly affects the quality of care given to the patient, as a lack of staff equated to increased individual tasks. However, since results from these tasks were expected in a certain period, present staff needed to purposely accomplish their tasks well as accurately as possible despite the shortage of staff. This may be why the findings of this study demonstrated that although the medical technologists were understaffed, they were neutral with delays and overtime.

In addition, the participants have agreed that staff shortages in the workplace led to an increased workload. This problem was consistent with the study conducted by Metcalf et al. (2018). Their study realized that the lack of staff equated to increased individual tasks for the available healthcare professionals. Increased workload also often led to higher error rates and poorer quality of care due to increasing occurrences of improper use of resources (Twigg et al., 2015). Such outcomes were also observed based on the results of the current study as the participants agreed that in one shift, they often engaged with non-medtech tasks (administration, housekeeping, statistics preparation).

Correspondingly, Banchani & Tenkorang (2014) stated that workload resulted from the fact that the number of workers was inadequate. Furthermore, workers had to attend to more clients than usual as compensation for the overwhelming range of duties and responsibilities. This was consistent with the results as the participants also agreed that there were several circumstances wherein, they had to work on another medical technologist's task rather than what they are usually in charge of.

Meanwhile, Tourignyet al. (2019) stated that understaffing increased absenteeism due to burnout and stressful workloads. As absenteeism increased, the medical technologists were given heavier workloads due to understaffing. Smart et al. (2013) also mentioned that an increase in workload contributed to fatigue, as well as absenteeism among the healthcare providers.

Generally, medical technologists are given tasks that are beyond their role as well as tasks that were assigned to their fellow medical technologists. Furthermore, the participants also agreed that there was a poor quality of supporting staff and that there are tasks they do on their own, even if they should be done with the help of others. The study conducted by Metcalf et al. (2018) mentioned that coordination and information exchange were critical in achieving favorable outcomes. Coordination and collaboration in the workplace reduced the burden caused by understaffing in a healthcare organization.

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Since the participants agreed on the previously mentioned statements, based on those established by Metcalf et al. (2018), it was evident that there was a lack of camaraderie among medical technologists within their respective workplaces. This claim can also be correlated to the extent of understaffing felt by the medical technologists. Moreover, Hudson and Shen (2015) also mentioned that giving recognition was highly important in boosting the productivity and well-being of healthcare workers. Poor quality of supporting staff lacked this attribute, which may be the explanation as to why there was a high extent of understaffing felt by the medical technologists.

3.2 The Extent of Exhaustion of the Medical Technologists in the Urban Sector

Table 2. The Extent of Exhaustion of the Medical Technologists in the Urban Sector

Physical and Emotional Exhaustion	Mean	Interpretation
How often do you think "I can't take it anymore"?	2.4649	often
Do you feel that every working hour is tiring for you?	2.1316	often
How often are you emotionally exhausted?	2.0614	often
Are you tired of working with patients?	3.1667	sometimes
Do you have enough energy for family and friends during leisure time?	2.4737	often
How often do you feel weak and susceptible to illness?	2.2982	often
How often do you feel worn out?	1.9649	often
Do you feel worn out at the end of the working day?	1.8596	often
How often do you feel tired?	1.8333	often
How often are you physically exhausted?	1.8158	often
Overall Mean	2.2070	often

(Interpretation: 4.21-5.0 never; 3.41-4.20 almost never; 2.61-3.40 sometimes; 1.80-2.60 often; 1.00-1.80 always)

Table 2 presents the Extent of Exhaustion of the Medical Technologists in the Urban Sector, specifically the results that pertained to the degree of both Physical and Emotional Exhaustion experienced by the participants of the study. The first three questions in the table corresponded to emotional exhaustion, while the latter seven pertained to physical exhaustion.

According to the mean values obtained for each response, the participants generally responded "sometimes" (x=3.1667) to the question "Are you tired of working with patients?". The participants also generally answered "often" for the questions "Do you have enough energy for family and friends during leisure time" (x=4737) and "How often do you think 'I can't take it anymore?" (x=2.4649). They also responded "often" to all of the succeeding questions regarding exhaustion: "How often do you feel weak and susceptible to illness," (x=2.2982); "Do you feel that every working hour is tiring for you," (x=2.1316);

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"How often are you emotionally exhausted," (x=2.0614); "How often do you feel worn out," (x=1.9649); "Do you feel worn out at the end of the working day," (x=1.8596); "How often do you feel tired," (x=1.8333); and "How often are you physically exhausted" (x=1.8158).

Table 2 also demonstrates how the participants often felt exhausted in general, as an overall mean of 2.2070 was obtained for the questions under healthcare exhaustion.

Wang et al. (2021) discussed how healthcare workers were vulnerable to the stresses of emotional exhaustion in the workplace. The findings of their study showed that the majority of the nurses and physicians they observed experienced such exhaustion even before the pandemic. Although the current study results were not specific to quantifying the workers experiencing exhaustion, the consistency of its results with the claims of other studies that healthcare exhaustion occurred in the workplace shed light on the finding that medical technologists from urban secondary laboratories in Region 3 often experience emotional exhaustion.

The emotional exhaustion experienced by the medical technologists was congruent with that of the results from Table 1 as it validated how exhaustion felt by the participants was concurrent with the understaffing in their workplace. This can also be seen in the study of Gutsan et al. (2018), who proved that increasing the understaffing in the workplace institution produced an increase in the risk of emotional exhaustion for workers. Furthermore, with particular emphasis on the fourth to the tenth question, based on the data obtained, physical exhaustion is evident among medical technologists as six (6) out of seven (7) physical exhaustion-related survey questions were interpreted as often, with mean values ranging from 1.80 to 2.60. These results corroborate previous studies by Maslach and Leiter (2016) and Hert (2020), which revealed that healthcare workers (HCWs) were exposed to a continual sense of tiredness or exhaustion.

Patient-related physical exhaustion demonstrated the highest mean among exhaustion-related questions and was the only question categorized under "sometimes." This may be attributed to the fact that although medical technologists suffer from physical exhaustion, they have often set the matter aside to maintain professionalism and dedication to their profession, which involves patient communication and interaction. This finding was congruent with the study of Khasne et al. (2020), who emphasized how healthcare workers neglected exhaustion to comply with their work demands. However, their continuous neglect of exhaustion can increase their strain, which resulted in unfavorable outcomes related to productivity, job satisfaction, and organizational citizenship behaviors that can affect them daily (Odonkor, S. & Frimpong, K., 2020).

The majority of the participants demonstrated physical exhaustion caused by work fatigue, particularly the feeling of being tired and worn out at the end of every working day, in which these results appeared to be consistent with the aforementioned study by Odonkor & Frimpong (2020). In addition to this, medical technologists also experienced weakness and susceptibility to illnesses.

Generally, the results were in accord with previously presented studies which consensus was that the overburden of workload physically and mentally exhausted healthcare workers, and exposes them to a high risk of experiencing distress which was detrimental to their well-being and performance (Wang et al., 2021; Zhang et al., 2020; & Opoku et al., 2021).

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3.3 The Work Performance of the Medical Technologists in the Urban Sector

Table 3. The Work Performance of the Medical Technologists in the Urban Sector

Work Performance	Mean	Interpretation
I managed to plan my work so that I finished it on time.	2.3333	often
I kept in mind the work result I needed to achieve.	2.1140	often
I was able to set priorities.	2.4737	often
I managed my time well.	2.4737	often
On my own initiative, I started a new task when my old tasks were completed.	2.5614	often
I worked on keeping my job-related knowledge up-to-date.	2.3596	often
I took extra responsibilities.	2.6579	sometimes
I actively participated in meetings and/or consultations.	2.5965	often
I complained about minor work-related issues at work.	3.4561	almost never
I made problems at work bigger than they were.	3.4474	almost never
Overall Mean	2.6474	sometimes

(Interpretation: 4.21-5.0 never; 3.41-4.20 almost never; 2.61-3.40 sometimes; 1.80-2.60 often; 1.00-1.80 always)

The work performance of medical technologists in the urban sector presented in Table 3 indicated the mean values of the responses to work performance questions.

Based on the responses, “I complained about minor work-related issues at work” obtained the highest mean (x=3.4561), which was interpreted as “almost never.” The same interpretation was also obtained for the statement, “I made problems at work bigger than they were” (x=3.4474). On the other hand, the statement “I took extra responsibilities” was interpreted as sometimes (x=2.6579), while the statement “I actively participated in meetings and/or consultations” (x=2.5965) followed by “On my own initiative, I started a new task when my old tasks were completed” (x=2.5614) were both interpreted as “often.” Two of the statements, specifically “I was able to set priorities” (x=2.4737) and “I managed my time well” (x=2.4737), also resulted in an interpretation of “often.” While the responses for the rest of the statements: “I worked on keeping my job-related knowledge up-to-date” (x=2.3596); “I managed to plan my work so that I finished it on time” (x=2.3333); and “I kept in mind the work result I needed to achieve” (x=2.1140), were also interpreted as “often.” Overall, the questions for work performance obtained a mean value of 2.6474, which suggests the participants only experience hindrances to the proper performance of their respective duties “sometimes”.

In Stenfors’s (2013) study about the Association of Psychosocial Working Conditions and Cognitive Complaints, cognitive overload was described as having an extensive information intake accompanied by a more significant number of work tasks to be kept in mind at the same time. This cognitive overload may be overwhelming as it takes time and

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effort to focus and refocus. The fatigue that this brings may affect work performance negatively and may result in the development of "cognitive complaints' ' since both their mental and physical strengths are exhausted.

However, the participants of this study stated that they "almost never" complained about work-related issues at work, even if they were minor, and they "almost never" made problems at work escalate into bigger problems. This finding contradicted the claims of Stenfors (2013), wherein a decline in performance is evident in employees with emotional and cognitive exhaustion, leading to complaints. Although, other factors should be considered, such as good employee motivation in the form of benefits and compensation (Osborne & Hammoud, 2017), that could alleviate the emotional demands of the employees in the workplace.

The medical technologists who participated in this study often volunteered to start pending tasks and sometimes took up extra tasks once done with theirs. This attribute may result from sub-optimal staffing levels, wherein instead of being a specialty-based laboratory scientist, the workplace conditions forced the medical technologists into being multidisciplinary to compensate for the lack of staff in each area (Osaro & Chima, 2014). This may also be correlated to one of the questions and its interpretation under Table 1, stating that overtime was a common issue due to the amount of workload per employee and that there were tasks done on their own that should have been done with the help of other medical technologists.

In contrast with the study of Metcalf (2018), which investigated the effects of staffing to work performance, specifically management decisions and work outcomes, the medical technologists who participated in this study managed their time well. They were able to set priorities given the heavy workload. The quality of work was not compromised as well, despite the understaffing. Metcalf's data demonstrated that medical errors were often the result of the lack of staff in hospital settings due to their labor-intensive environment. However, statistically speaking, this did not negatively affect the work performance of the current study's participants. The studies presented could also suggest that such an outcome was obtained because existing standard operating procedures (SOPs) were followed, and there were good organizational systems in the institutions despite being understaffed.

Overall, the results of the study differ from other literature due to different work conditions and settings, and work expectations, as medical technologists are expected to accomplish their tasks efficiently in order to deliver accurate and precise results for the proper diagnosis of each patient.

3.4 The Relationships among Exhaustion, Work Performance, and Understaffing

Table 4. The Relationships among Exhaustion, Work Performance, and Understaffing

		Exhaustion		**Work Performance**		**Understaffing**	
	mean	**Pearson r**		**Pearson r**		**Pearson r**	
		r	p-value	r	p-value	r	p-value
Understaffing	2.4009	0.727	**0.000**				

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Exhaustion	2.2070			0.155	**0.100**		
Work Performance	2.6474					0.218	**0.020**

Table 4 presented the results of the Pearson r test that was used to identify not only the possible relationships among understaffing, exhaustion, and work performance of the medical technologist participants but also their strengths and their directions.

Based on the values obtained, there was a significant (p-value = 0.000) high positive correlation between understaffing and physical and emotional exhaustion (r=0.727). This finding was supported by the study of Smart et al. (2013), who stated that fatigue, the chronic form of exhaustion that precipitated from understaffing, led to absenteeism. Furthermore, Sheward et al. (2005) reinforced this significant relationship between understaffing and exhaustion by demonstrating that increased healthcare professional-to-patient ratio also increased the risk of emotional exhaustion and job dissatisfaction.

A possible reason for this was that, as mentioned earlier, exhaustion-induced sickness absence (SA) had already been a phenomenon that occurred in the healthcare industry. Hence, more of it may be expected in the current period of the COVID-19 pandemic, where the medical care workforce was all the more stretched to its maximum. Such agreement among these studies mentioned with this particular result of the current study acknowledged that understaffing compromised the high quality of service that was supposedly provided by the healthcare workforce, as Smart et al. (2013) mentioned.

Generally, these studies were summarized by Gohar & Nowrouzi-Kia (2020) by mentioning that staff shortage was proved to bear negative consequences to the healthcare setting, locally or globally.

On the other hand, the values also showed a significant (p-value= 0.020) low positive correlation between understaffing and work performance (r=0.218). Inga-Berrospi and Rodríguez (2019) mentioned that healthcare providers constituted a vital component of the healthcare system known as the human health resources (HHR). Dostie (2018) emphasized that the human element being pertained to play the most critical role in the innovation of the healthcare industry.

This result of the current study was also in alignment with the outcomes of the related literature presented, specifically that of Nkomazana et al.'s (2015) study. This was because of their discovery that shortage in healthcare staffing was significantly related to healthcare work performance as the former impeded the supposedly steady supply of trained professionals who provided the most optimal work performance.

However, it was noticeable that the results of the current study demonstrated a positive relationship between understaffing and work performance, albeit only low. In comparison, the Nkomazana et al. (2015) suggested a negative relationship between the two. A possible reason for this disparity was that the current study focused on the relationship between the two variables in the urban setting. In contrast, the study of Nkomazana et al.'s (2015) focused on the rural one. As Hudson and Shen (2015) stated, understaffing in one workplace was not similar to the same phenomenon in another.

Initially, Inga-Berrospi and Rodríguez (2019) mentioned that a possible reason why such occurrence might have been observed in the current study was that the human healthcare

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resources were the least prioritized. This claim was due to the lack or absence of health reform projects whose objectives were supposed to improve the said human resource. Hudson and Shen (2015) also supplied evidence to the claim of Inga-Berrospi and Rodríguez (2019) as they discovered that the human healthcare element received little to no recognition and overall support, despite needing the most.

However, understaffing resulted from the overwhelming influx of medical needs in the urban setting in the face of an adequate workforce, as described by Roos (2013), and not from the lack of healthcare workers as in the rural healthcare setting. Because of this, impediments to the work performance of medical technologists in the urban sectors may not necessarily result from understaffing. Hence, as discovered by the researchers, understaffing maintained a significant yet still weakly positive relationship with work performance, suggesting a slight improvement in their work performance despite the pressure brought by understaffing.

However, the Pearson r test proved no significant correlation (p-value= 0.100) between exhaustion and work performance (r=0.155). Gaines & Jermier (2017) regarded exhaustion as an impediment to an individual's ability to accomplish his predetermined tasks. However, Maslach & Leiter (2016) clarified this assertion by Gaines & Jermier (2017) through the identification that it was fatigue, the chronic form of exhaustion as was mentioned by Michielsen et al. (2007) to be the devitalizing aspect of tiredness. Still, this finding is consistent with the statement of Reith (2018) that the constant need for the presence of healthcare workers contributes to their exhaustion. Since the tool used assessed exhaustion, a non-significant relationship may have resulted.

Despite these, Hert (2020) still alluded to exhaustion as an inhibitor of high-quality healthcare worker performance. The possible reason the outcome was observed for the current study was that although the participants often experience exhaustion, its persistence does not commensurate with the number of times they feel that their work performance is affected, let alone impaired.

Moreover, though there have been studies reporting the negative influence of exhaustion on the work performance of healthcare workers, there has been none that focused mainly on the medical technology workforce setting. As such, though Rogers (2008) stated that the work performance is adversely affected by exhaustion, fatigue, and burnout, a generalization was made because their study only featured nurses, similar to the study of Patel et al. (2018), who focused only on physicians or doctors. This “contradiction” between the results of the current study and those of the published studies may be due to the scarcity of literature. Because of the current study’s specific focus, the medical technology profession, there is a lack of studies with a parallel focus and objective as that of the current research.

In the end, despite the disparity between the results of the study and those which have already been published in the current literature, all these still point to the need of recognizing healthcare exhaustion and understaffing in order to promote high quality work performance as was stated by Wanchum Xu et al. (2020).

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4 CONCLUSION AND RECOMMENDATION

4.1 Conclusion

The findings of this study reported that understaffing was a prevalent factor present in the participants' workplace, with the workload exceeding the number of staff present at a time. This led to the overcompensation of the present staff in order to meet the demands of the workplace as their tasks as healthcare workers were vital in the diagnosis and treatment of patients.

This shortage may be accompanied by medical errors due to time constraint from all the pending tasks at hand as one study suggested, but the extent of work performance of this study found that the participants only experienced mild hindrances and work restrictions despite the conditions of their workplace. This claim is supported by the fact that the medical technologists managed to set their priorities and finish their tasks, even willing to go overtime "sometimes" to finish the tasks for each day.

Although this compensation led to adequate work performance, this attribute often left the medical technologists exhausted due to the workload. This observation was valid as all answers to the questions regarding exhaustion were answered with "often," except when they were asked if the participants were tired of working with patients.

In addition, though understaffing in the respective workplaces of the medical technologists resulted in physical and emotional exhaustion, such exhaustion was proven to bear no effect on their work performance, while understaffing improved the quality of their work. This could suggest that medical technologists were still able to properly contend with the increasing demand for their services as they might have developed coping mechanisms whose discussions are beyond the scope of the current study. This inference supported the findings of the study because both understaffing and exhaustion bore no negative influence on the work performance of the medical technologists in the urban sector, in contrast to the consensus presented by the collection of related studies.

4.2 Recommendation

Since this study was done only within Region III, there may be discrepancies if done in other urban areas of the Philippines. Aside from this, results may differ if conducted in rural laboratories and hospitals, as the current study was carried out in an urban setting. Therefore, it is recommended that the study be tested in urban areas of different regions to discern if these studies would be consistent with the findings of the current study. It may also be recommended that a study regarding urban versus rural quality of work in a single region, under the context of work performance to identify variances in the results between the different categories of communities.

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APPENDIX A: QUESTIONNAIRE

Name:
Occupation:
Workplace (Name of Laboratory/Hospital and Province):
Do you work in a secondary laboratory (yes/no):

UNDERSTAFFING					
QUESTION	1 (Strongly Agree)	2 (Agree)	3 (Neutral)	4 (Disagree)	5 (Strongly Disagree)
1. In the last month, my shifts were often extended because of the lack of another medtech					
2. I had to do more mandatory overtime this month due to the lack of manpower					
3. I have done more voluntary overtime this month					
4. The staff shortage in my workplace leads to my increased workload					
5. Comparing to the last month, the amount of overtime done by me has been increased					
6. I have often seen multiple delays experienced in the laboratory					
7. In my one shift, I often engage with non-medtech tasks (administration, housekeeping, statistics preparing, etc.)					
8. During the last month, there were several times I had to work on another medtech's task, rather than what I am usually in-charge with					

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EXHAUSTION INVENTORY					
QUESTION	1 (Always)	2 (Often)	3 (Sometimes)	4 (Almost never)	5 (Never)
1. How often do you feel tired?					
2. How often are you physically exhausted?					
3. Do you feel worn out at the end of the working day?					
4. Are you exhausted in the morning at the thought of another day at work?					
5. Are you tired of working with patients?					
6. Do you sometimes wonder how long you will be able to continue working with patients?					
7. How often are you emotionally exhausted?					
8. How often do you think? "I can't take it anymore"?					
9. Do you feel that every working hour is tiring for you?					
10. Do you have enough energy for family and friends during leisure time?					
11. How often do you feel worn out?					
12. How often do you feel weak and susceptible to illness?					
QUESTION	1 (To a very high degree)	2 (To a high degree)	3 (Somewhat)	4 (To a low degree)	5 (To a very low degree)
1. Is your work emotionally exhausting?					
2. Do you find it hard to work with patients?					

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3. Do you find it frustrating to work with patients?					
4. Do you feel fatigued because of your work?					
5. Does it drain your energy to work with patients?					
6. Do you feel that you give more than you get back when you work with patients?					
7. Does your work frustrate you?					

Individual Work Performance					
QUESTION	1 (Always)	2 (Often)	3 (Sometimes)	4 (Almost never)	5 (Never)
1. I managed to plan my work so that I finished it on time					
2. I kept in mind the work result I needed to achieve					
4. I was able to set priorities					
5. I managed my time well					
6. On my own initiative, I started a new task when my old tasks were completed					
7. I took on challenging tasks when they were available					
8. I worked on keeping my job-related knowledge up-to-date					
9. I worked on keeping my work skills knowledge up-to-date					
10. I came up with creative solutions for new problems					
11. I took extra responsibilities					

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12. I continually sought new challenges in my work.					
13. I actively participated in meetings and/or consultations					
14. I complained about minor work-related issues at work					
15. I made problems at work bigger than they were					
16. I focused on the negative aspects of the situation at work instead of the positive aspects					
17. I talked to colleagues about the negative aspects of my work					
18. I talked to people outside the organization about the negative aspects of my work					

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