

Uncovering Health Problems of Personnel in a State University in the Philippines

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Abstract

The study aimed to determine the uncovered health problems of University of Northern Philippines (UNP) employees. The retrospective cohort study included UNP employees who took the 2021 Annual Medical Exam (AME). Data on their demographics, medical history, test results, and examination findings were collected. Descriptive statistics were used to present the subjects' profile and overall health. The simple correlation was used to describe the relationship between the medical problems uncovered and the respondents' profile. Generally, the respondents are fit to work. However, more than half of the respondents had unsatisfactory health status, and hypertension was the most prevalent cause of morbidity. The study has uncovered diseases of the employees with Urinary tract infection (UTI) as the most uncovered disease.

Furthermore, the research reveals a highly significant relationship between respondents' age and undiagnosed heart problems or diabetes mellitus (DM). Additionally, there is a highly significant relationship between sex and undiagnosed health conditions. Moreover, hypercholesterolemia, hypertension, and anemia are significantly related to the type of employment. The AME has uncovered several health problems which may contribute to employees' poor work performance. Thus, early detection and treatment of any health problem can improve the health and productivity of the university workforce.

Keywords: health status, uncovered health problems, annual medical exam.

Introduction

Over the last 20 years, the university sector has experienced intense and wide-ranging change. There has been a rapid increase in the

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number of students, increased demands of teaching and research, and the general need to “do more with less,” leading to the increased workload and intensity of academic work transforming university cultures. Some studies have shown that teaching and research pressures, heavy administrative burdens, and lack of resources have been identified as particularly harmful to their well-being. Achieving and maintaining a healthy work-life balance is challenging for academic employees, resulting in health issues, job dissatisfaction, and high turnover. Work-life conflict can be attributed to a combination of various factors, including individual differences (such as overcommitment, workaholism, and perfectionism), behavioral (such as poor boundary management), and work-related (such as heavy workloads, long working hours, and university service) Although academic employees have had better physical health than non-academic employees, they were more likely to experience job overload and work-life conflict (Kinman & Johnson, 2019).

Due to increasing industrialization and urbanization, most university employees engage in a sedentary type of occupation (such as office work), leading to lifestyle changes that promote non-communicable diseases (NCDs) (Ige et al., 2013).

Non-communicable diseases (NCDs), also known as lifestyle diseases, are non-infectious medical conditions that cannot be passed from one person to another, including cardiovascular disease, cancers, chronic respiratory diseases, and diabetes mellitus (DM). NCDs are of increasing public health concern in the Philippines and worldwide. They are the leading causes of death worldwide and pose an emerging global health threat. There is a high burden of NCDs in the Philippines, accounting for 68% of all deaths recorded in 2015. They affect people from all walks of life, particularly those of working age, leading to increased healthcare costs, limited work options, and financial instability. Low- and middle-income nations with high rates of NCDs also experience worsening poverty, limited economic growth, and strained health systems, making them less resilient to crises like infectious disease outbreaks or natural disasters. (WHO, 2019; WHO, 2021a; CDC, 2020)

Detection, screening, and treatment of NCDs are vital components of the response to NCDs (WHO, 2021a). Undetected health conditions may worsen health outcomes and affect their quality of life. Late detection of diseases can lower the chance of effective treatment. In addition, undetected health conditions may increase direct and indirect healthcare costs.

Disease-affected people are more likely to be absent from work or to perform less productively while they are present at work. As a result, governments face significant opportunity costs due to the high financial burden of disease, including a decline in spending on

initiatives and other forms of physical or human capital that can yield long-term returns. Thus, employees' health status is an important underlying factor in increasing or maintaining labor force productivity. (Lee et al., 2020; WHO, 2019).

Keeping a healthy workforce is one of the government's top priorities, as physical well-being significantly impacts the efficiency and effectiveness of public service delivery. With this, the Civil Service Commission also issued Memorandum Circular No. 33 (s. 1997) mandating all government agencies and Government-Owned and/or-Controlled Corporations (GOCCs) to provide, among others, a health program for their employees which includes free annual mental and medical-physical examinations. In addition, Administrative Order no. 402 s. 1998 was signed by Former President Fidel V. Ramos for the establishment of a medical check-up program for government personnel. As one of the government institutions, the University of Northern Philippines (UNP) conducts an Annual Medical Examination (AME) among its personnel.

Medical Examination involves a physical and diagnostic examination to determine an employee's health status (physical and mental) and diagnose or update their health problems or findings related to a disease or injury. The physical examination evaluates objective anatomic findings through observation, palpation, percussion, and auscultation. On the other hand, the diagnostic examination is a type of test used to help diagnose a disease or condition. Diagnostic examinations administered to subjects in this study are; Complete Blood Count (CBC), Urinalysis (UA), Fecalalysis (FA), Chest radiography, and Electrocardiogram (ECG).

UNP is one of the State Universities and Colleges in Region I, Philippines. It has more than 1000 male and female teaching and non-teaching staff with varied age ranges and years of service. Aside from teaching, teachers also do diverse functions along with research and extension, and others do administrative functions. The non-teaching staff does administrative, clerical, and support functions. Due to the nature of the work of the teachers and the non-teaching staff, health problems are inevitable. The university has the role of developing and implementing health programs that may, in a way, help improve the health and well-being of its employees. However, to make the health programs more responsive to the needs of the employees, there is a need to conduct AME. So, all employees of the University are required to have their annual health examinations. This initiative will help the health practitioners in the University identify health problems and other illnesses that were not previously discovered. Hence, this study. The results of this study will determine the general health status of UNP personnel and their uncovered diseases. This will serve as a basis for recommending appropriate health programs or interventions for

UNP personnel to alleviate these medical conditions, improve their overall health, and consequently produce higher productivity in the University.

Literature Review

International Classification of Functioning, Disability, and Health

This study will be anchored on the International Classification of Functioning, Disability, and Health (ICF). ICF is a standard framework to describe health and health-related states. It acknowledges that human functioning is affected by contextual factors and health conditions. These contextual factors include environmental factors (type of employment and marital status) and personal factors (age, sex, and lifestyle). Human functioning is classified into three (3) levels – the body (structure and functions), the whole person (activities and tasks performed), and the whole person in the social context (involvement in life situations). Assessing these functionings leads to diagnosing different health conditions and determination of intervention and prevention needs. In addition, it can also help identify and measure the impact of the environment on the difficulties one faces in their life (WHO, 2002). This study would only include environmental, personal, and body functioning as contextual factors.

Non-communicable Diseases among University Employees

University employees are more likely to be at risk of having NCDs by virtue of age and occupational status. Previous studies cited by Amin et al. (2014) showed that those with administrative jobs made up 54.0% of diagnosed diabetics, 50.0% of hypertensives, and 70.0% of people with coronary heart disease. In contrast, faculty members comprised 20.0% of diabetics, 32% of hypertensives, and 30.0% of people with coronary heart disease.

According to the study by Amin et al. (2014), more than 50% of Saudi Arabia's university staff members had three or more NCD risk factors (hypertension, diabetes, and obesity). Most were physically inactive (73%) and obese (64%). Moreover, 22.1%, 21.5%, and 36.6% have hypertension, diabetes, and elevated cholesterol levels. Therefore, the study suggests that university employees are more likely to develop NCDs.

In addition, the study by Laurence et al. (2016) demonstrates that the prevalence of risk factors for cardiovascular disease (CVD) was high and included hypertension, hypercholesterolemia, smoking, diabetes, chronic kidney disease, and obesity. According to the study, 18.7% had a high heart attack or stroke risk within ten years. Similarly, Awosan et al. (2013) show that teachers have a high prevalence of CVD risk

factors such as hypertension, diabetes, hypercholesterolemia, obesity, sedentary lifestyle, and smoking.

Healthcare System and Seeking Behavior in Ilocos Sur, Philippines

The Philippine Health System combines the public and private sectors to provide healthcare services. The Department of Health (DOH) or local government units (LGUs) generally govern and regulate public health providers in providing medical services. On the other hand, private providers, such as for-profit and nonprofit organizations, typically charge a fee for services. In almost all RHUs and district hospitals, there is an inadequate number of medical personnel, particularly doctors (Savella, 2018). Although it is well known that the nation has highly educated and skilled doctors who have earned degrees from prestigious institutions both domestically and abroad. The same is true for the competitive training of nurses, medical technicians, and pharmacists to maintain high standards. Additionally, visiting health centers for medical advice may require a lengthy wait for the results. Access problems to healthcare facilities and services like this could put patients under more mental and physical strain and make them less likely to seek follow-up treatment and consultation (Quilon et al., 2019).

The people of the province of Ilocos Sur, in particular the indigenous population, agreed favorably about their views of the way healthcare was provided, Ilocos Sur residents, particularly the indigenous population, concurred favorably about their opinions of the way healthcare is provided, but they were neutral about their beliefs regarding health, social structure, the seriousness of the illness, the need for treatment, and the quality of healthcare facilities and staff. RHU services are moderately adequate in providing healthcare; many people frequently use them. Significant correlations exist between socio-demographic factors and health-seeking behaviors, including ethnicity to social structure and perception of the severity of illness, household size to health belief, occupation to social structure, and perception of illness severity. Additionally, there are significant associations between health-seeking behaviors and obstacles to healthcare access, such as time constraints, social structure, perceptions of illness severity, and financial considerations (Queddeng et al., 2019).

Research Objectives

The study aims to determine the uncovered health problems of UNP personnel. Specifically, it aims to: (1) describe the general health status of UNP personnel, (2) determine the incidence of uncovered health problems among UNP personnel according to age, sex, and type of employment, (3) describe the clinical signs present at the time of

examination, and (4) determine the relationship of the UNP personnel's profile (age, sex, and type of employment) with the uncovered health problems.

Research Methodology

Respondents of the Study. The researchers covered the UNP personnel who have undergone the AME from March to June 2021, with complete health data included in the study. It covered both employment types – teaching and non-teaching in all colleges and departments in the university, regardless of gender, years of experience, and age range.

Data Collection. The study used a retrospective cohort design to describe the General Health status of UNP personnel, determine the presence and type of health problems present, and the general profile of subjects uncovered through the AME results. In addition, the correlational design establishes the relationship between the uncovered health problems presented with the profile of the respondents at the time of the AME.

A retrospective chart review was conducted at the University Hospital. Data on the subjects' demographics (age, sex, college/department, type of employment), medical history, results of tests and procedures, and the physical and diagnostic examination findings were gathered for the study.

Data Analysis. Descriptive and inferential analysis was used in this study. The following statistical tests were used in the analysis of the data gathered. Frequency and percentage measures of central tendency (mean, median) are determined to provide an overall description of the subject's age. Categorical variables, such as health status, the prevalence of diseases, uncovered medical conditions, the subject's profile, and examination findings, were presented using frequencies and percentages. A simple correlation was used to describe the relationship between the uncovered medical problems and the respondents' profile presented at the time of examination.

Ethical Considerations. Research ethics was observed throughout the whole conduct of the study. Ethical approval was obtained from the UNP Research Board Committee. All acquired data were stored in complete confidentiality and anonymity of identity following the Data Privacy Act of 2012 and were not directly linked to the respondents who will participate in the study. All collected data was used solely for research purposes and will be deleted once the study is published.

Results and Discussions

A total of 280 university employees participated in the study. As seen in Table 1, most of the respondents are middle-aged adults (43.93%), female (52.86%), married (73.93%), and belong to the teaching staff (72.14%).

Table 1. Demographic Characteristics of UNP Personnel

Demographic characteristics	f	%
Age		
18-30 (Young Adults)	35	12.50
31-45 (Middle-aged Adults)	123	43.93
46-59 (Old-aged Adults)	109	38.93
60-65 (Elderly)	13	4.64
Sex		
Male	132	47.14
Female	148	52.86
Civil Status		
Single	63	22.50
Married	207	73.93
Separated	1	0.36
Widowed	9	3.21
Type of Employment		
Teaching	202	72.14
Non-teaching	78	27.86

1. General Health Status of UNP Personnel

The general health status of the UNP personnel is described in terms of Body Mass Index (BMI) and the presence or absence of co-morbidity. Further, general health status is graded as Satisfactory and Unsatisfactory. Satisfactory health status in this study refers to the absence of existing co-morbidities and normal BMI. If the respondents do not possess these conditions, they are considered to have unsatisfactory health status. Among the respondents, 25.71% have satisfactory health status. Meanwhile, 74.29% have unsatisfactory health status.

1.1. Body Mass Index. Around twenty-eight percent (28.21%) of the respondents have normal BMI. Notably, 19.64% and 50% are overweight and obese, respectively. Further, few are underweight (2.14%). Although BMI does not directly measure body fat, it appears to be strongly correlated with a number of unfavorable health outcomes consistent with more precise measurements of body fatness, such as the waist circumference ratio. It screens for weight categories that may lead to health problems. A high BMI indicates high

body fatness (Centers for Disease Control and Prevention, 2021a). The risk of developing non-communicable diseases like cardiovascular disease, diabetes, musculoskeletal disorders (especially osteoarthritis), and some cancers (including endometrial, breast, ovarian, prostate, liver, gallbladder, kidney, and colon) is significantly increased by having a high BMI. These non-communicable diseases become more likely as BMI rises (WHO, 2021b).

1.2. Clinical signs or co-morbidities of respondents. Table 2 shows the top causes of morbidity in the University when the annual medical examination was done.

Table 2. Top Causes of Morbidity in the University at the time of AME (N=280)

Rank	Disease	f	%
1	Hypertension	68	24.29
2	Hypercholesterolemia	46	16.43
3	Urinary Tract Infection	45	16.07
4	Impaired Fasting Glucose	39	13.93
5	Diabetes Mellitus	28	10.00
6	Heart Problem/s	21	7.50
7	Hyperuricemia	14	5.00
8	Anemia	9	3.21
9	Asthma	7	2.50
10.5	Kidney Disease	3	1.07
10.5	Tuberculosis	3	1.07

Hypertension is the leading cause of morbidity among UNP personnel. This is the same with the leading cause of morbidity in the region, according to the Department of Health (2019). Hypertension at the university might be related to the prevalence of hypercholesterolemia among the employees. Hypertension and hypercholesterolemia (high cholesterol) are frequently associated. People who have high blood cholesterol frequently have high blood pressure as well. One of the known risk factors for hypertension is hypercholesterolemia. If the cholesterol is high, the excess fatty substance sticks and builds up to the wall of the arteries. As a result, the heart has to work much harder to pump blood through narrowed and hardened arteries caused by calcium and cholesterol plaque (atherosclerosis), which raises blood pressure to unnaturally high levels. (Cleveland Clinic Medical Professional, 2020; Story, 2020). Hypercholesterolemia among the UNP personnel may be attributed to some of the foods and delicacies present in the province which are cooked with oil, i.e., Bagnet, Vigan Longganisa, Sinanglao and Empanada (Dy-Zulueta, 2022).

1.3. Fitness to Work. The results of this study show that all respondents were deemed fit to work in their respective fields. This denotes that

despite every employee's condition, they are still deemed fit to effectively perform their respective tasks and responsibilities in the university. Their medical conditions do not endanger themselves, their colleagues, and/or others under working conditions and do not hinder their productivity in their respective lines of work.

2. Uncovered Health Problems among UNP Personnel

Table 3. Top 10 Uncovered Diseases among UNP Personnel (N=280)

Rank	Disease	f (%)	Unawareness Rate
1	Urinary Tract Infection	41 (14.64)	91.11%
2	Hypercholesterolemia	40 (14.29)	86.96%
3	Impaired Fasting Glucose	35 (12.50)	89.74%
4	Hyperuricemia	13 (4.64)	92.86%
5	Heart Problem	12 (4.29)	57.14%
6.5	Hypertension	7 (2.50)	10.29%
6.5	Anemia	7 (2.50)	77.78%
8	Diabetes Mellitus	6 (2.14)	21.43%
9	Entamoeba	3 (1.07)	100.00%
10	Tuberculosis	2 (0.71)	66.67%

In general, urinary tract infection (UTI) is the most uncovered disease among UNP personnel, with 41 (14.64%) cases at the time of examination. This is followed by hypercholesterolemia (14.29%), impaired fasting glucose (IFG) (12.5%), hyperuricemia (4.64%), heart problem (4.29%), hypertension (2.50%), anemia (2.50%), diabetes mellitus (2.14%), entamoeba (1.07%), and tuberculosis (0.71%) (see table 3). Among the 45 respondents diagnosed with urinary tract infection, 41 were unaware or undiagnosed of the medical condition, with an unawareness rate of 91.11%. This may be attributed to employees' behaviors to avoid frequent urination due to work demands, like avoiding public toilets, delaying voiding while at work, voiding with little or no need ("just in case"), and reducing fluid consumption (Markland et al., 2018). The incidence of UTI in the university may also be due to the respondents' environmental and personal hygiene conditions. Further, entamoeba having the highest unawareness rate suggest that respondents may have assumed having diarrhea and/or may have deemed it unnecessary to seek medical advice considering that the symptoms are often mild, including loose feces, stomach pain, and stomach cramping, which are also common diarrhea symptoms (Centers for Disease Control and Prevention, 2021b).

In addition, having the study being conducted in the middle of the Covid-19 pandemic, the health crisis has exacerbated the non-utilization of health facilities. Since the start of the pandemic, various health agencies have continuously promoted precautionary measures

against the SARS-Cov2 virus. Previous studies have linked increased preventive measures to an increased perception of the virus's risk, causing fear and an overly pessimistic attitude toward risk, as cited by Arshad et al. (2020). This may impact public healthcare utilization, particularly during this pandemic, changing people's health-seeking behavior. The increasing number of Covid-19 cases in the hospitals at the time of examination may have affected the uncovered diseases and their incidence.

Figure 1. Percentage of Uncovered Diseases of UNP Personnel according to Age

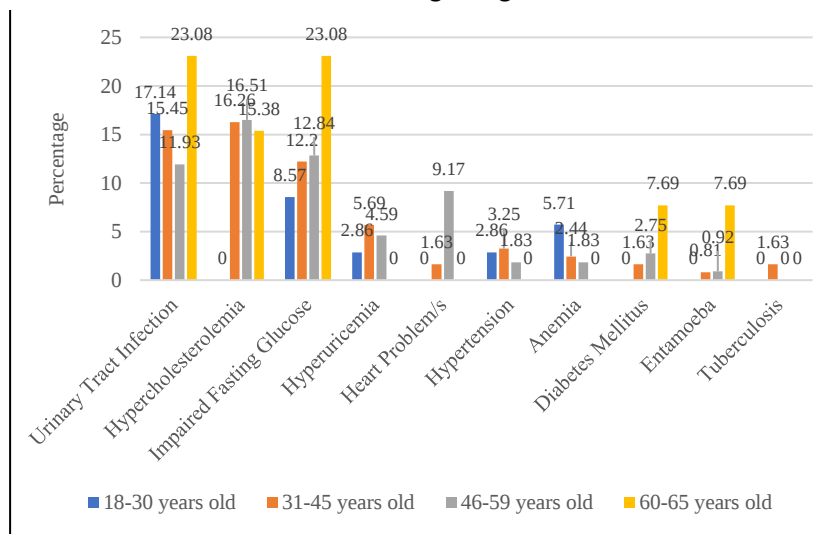


Figure 2. Percentage of Uncovered Diseases of UNP Personnel according to Sex

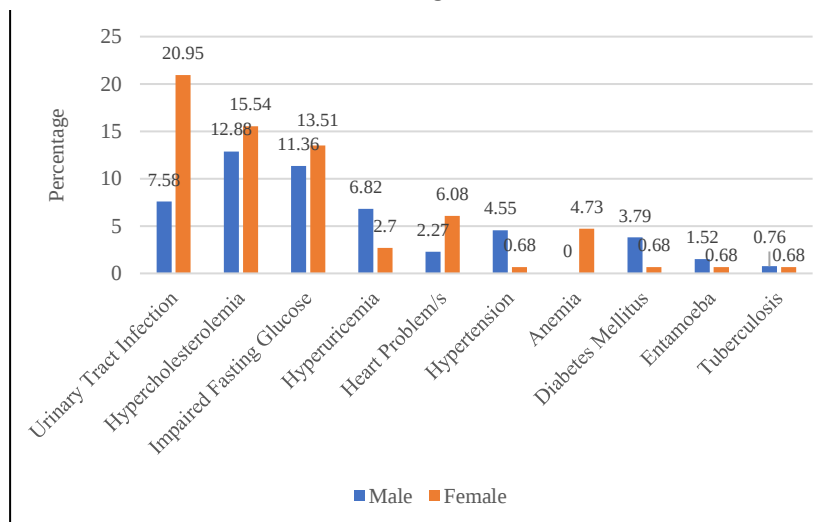
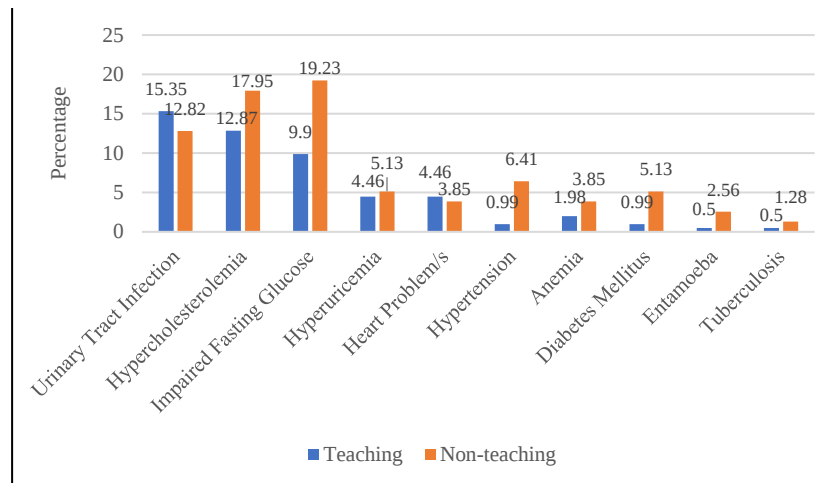


Figure 3. Percentage of Uncovered Diseases of UNP Personnel according to Type of Employment



2.1. According to Age. Figure 1 shows that uncovered UTI, Hypercholesterolemia, IFG, Hyperuricemia, Hypertension, Anemia, and Tuberculosis were more common in respondents aged 31-45 than in the other age groups. Furthermore, respondents aged 46-59 have the most uncovered heart problems and diabetes mellitus. Furthermore, among people aged 18-30, urinary tract infection is the most common uncovered disease, with 17.14%. On the other hand, uncovered cases of hypercholesterolemia were found most frequently in people aged 31-45 (16.26%) and 46-59 (16.51%). The most common uncovered diseases among people aged 60-65 are urinary tract infections and impaired fasting glucose, accounting for 23.08% of the respondents belonging to the elderly population in the university.

2.2. According to Sex. More males have discovered hyperuricemia, hypertension, diabetes mellitus, and entamoeba. On the other hand, females have uncovered UTI, hypercholesterolemia, IFG, heart problems, and anemia in greater numbers. Furthermore, hypercholesterolemia (12.88%) and urinary tract infection (20.95%) were the most uncovered diseases among males and females, respectively (see Figure 2).

Generally, hypercholesterolemia is more prevalent among men than in women. This trend is also noted in the study of Pal (2021), which states that the prevalence of hypercholesterolemia between 2013 and 2016 in males (29.1%) is notably higher than in females (25.3%). Furthermore, among Asians, the prevalence in males (27.3%) was 11.9% higher than in females (24.4%). Men consume more meat and saturated fatty foods than women, and women consume more sugar than men; both consume dairy and ice cream. These foods can

contribute to high inflammation and, as a result, high cholesterol in both.

On the other hand, because of the protective effect of the female hormone estrogen, women have a lower risk of developing high cholesterol when they are younger. However, as they approach menopause, estrogen levels fall, and the protective effect fades, putting them on par with men in terms of risk (Everyday Health, n.d.; Goldman & Clark, 2021). Having said this, having more women uncovering hypercholesterolemia than men may reflect that men have more awareness of their cholesterol level because they are more into eating saturated fatty foods, which are the most common food associated with high cholesterol levels compared to women. In addition, despite having more awareness than female respondents, male respondents are still unaware of their cholesterol levels. Although urinary tract infection affects men and women of all ages, it is more common in women than in men, owing to various clinical factors such as anatomical differences, hormonal effects, and behavioral patterns (Griebeling, 2004). Having more urinary tract cases in females than males is similar to its prevalence at the national level in 2019, according to the Philippine Health Statistics (Department of Health, 2019).

2.3. According to the Type of Employment. Figure 3 shows more uncovered cases of UTI, hypercholesterolemia, IFG, hyperuricemia, heart problems, and anemia among teaching respondents. Non-teaching respondents had a higher prevalence of uncovered hypertension, diabetes mellitus, and entamoeba. Furthermore, among teaching respondents, urinary tract infection (15.3%) has the highest number of incidences at the time of examination, while impaired fasting glucose (19.23%) has the highest incidence among non-teaching respondents.

Urinary tract infections are widespread in teaching, and most doctors will admit them. Because they must interrupt class to use the restroom (which takes little time), teachers are allegedly not taking the time to drink water (Families.com, n.d.). The study by Winchester et al. (2022) revealed that urinary tract infections were significantly more common among teachers with limited restroom access. The high incidence of urinary tract infections among teachers may be attributed to less mobility as they transition to remote teaching approaches, usually through online modalities. With the high workload and the abrupt transition to online teaching, teaching staff may have been too focused on their work, chained to their desks, and delayed the need to urinate. Non-teaching personnel has also experienced abrupt changes in their workload demands as most of the university's transactions are shifted to online modalities, from meetings to submission of reports, forcing them to work beyond office hours and

their lifestyle factors. This may have caused stress to the staff, which may have induced “stress eating” of sugary foods on top of having lesser physical activity.

3. Annual Examination Findings

Table 4. Clinical Signs at the time of Examination

Clinical Signs	Normal Findings		Abnormal Findings	
	f	%	f	%
Hematology				
Hemoglobin	264	95.7	12	4.3
Hematocrit	269	97.8	6	2.2
White Blood Cells	242	88.0	33	12.0
Platelets	263	96.3	10	3.7
Clinical Chemistry				
Fasting Blood Sugar	131	74.4	45	25.6
Blood Urea Nitrogen	144	91.1	14	8.9
Creatinine	157	90.8	16	9.2
Uric Acid	61	62.2	37	37.8
Total Cholesterol	112	64.7	61	35.3
Triglycerides	143	83.6	28	16.4
High-density Lipoprotein	164	95.9	7	4.1
Low-density Lipoprotein	136	79.5	35	20.5
Fecalysis				
Presence of parasites	237	96.7	8	3.3
Urinalysis				
Sugar	225	90.4	24	9.6
Albumin	198	80.2	49	19.8
Chest X-Ray				
Heart	256	98.0	5	1.9
Lungs	251	97.0	9	3.5
ECG	209	79.8	53	20.2

On Blood Pressure. According to the JNC 7 classification, most respondents with blood pressure records have blood pressure higher than normal (78.26%). 52.80% are pre-hypertensives, while 19.25% and 6.21% have stage 1 and 2 hypertension, respectively.

On Hematology. Almost all respondents who underwent hematology tests had normal findings regarding hemoglobin, hematocrit, white blood cells, and platelet levels. There were only a few who had abnormal hematology levels. The respondents with abnormally elevated white blood cell count suggest that these respondents may have an ongoing viral or bacterial infection (most likely UTI),

inflammation, or maybe they are under stress at the time of examination.

On Blood Chemistry. Most respondents who underwent blood chemistry have normal findings. Moreover, it is notable in the table that more or less 30 percent of the respondents have abnormal fasting blood sugar, blood uric acid, and total cholesterol findings, respectively. Further, 16.4% have abnormal triglyceride levels, while 20.5% have abnormal LDL levels.

On Urinalysis. There is 9.6 percent of the respondents who underwent urinalysis have sugar in their urine. Around double in number are positive with the albumin test. These results are not necessarily pathologic and need correlation with additional diagnostic examinations. However, the majority have normal urine test results.

On Fecalalysis. There is only a limited number of respondents with abnormal findings in fecalysis. These respondents had parasites in their feces. These patients were given appropriate anti-helminthics.

On Chest X-Ray. Almost all respondents who underwent Chest X-rays had normal findings, while only very few (see Table 4) had abnormalities in their hearts and lungs. Notably, the study's abnormal heart findings are atheromatous aorta, atherosclerotic aortic arc, cardiomegaly, and prominent pulmonary arteries. On the other hand, pulmonary fibrosis, pleural thickening, pulmonary hyperinflation, suspicious opacities, and lobe infiltrates were seen in the lungs among those with abnormalities.

On Electrocardiogram. The heart rhythm of the respondents who underwent ECG shows that 79.8 percent have normal ECG findings. Abnormal findings include irregular heart rhythm like sinus tachycardia, ischemia, Left ventricular hypertrophy by voltage, Sinus Bradycardia, Right Bundle Branch Block, premature contractions, Left Axis Deviation, Prominent U Wave, Intraventricular Conduction Delays, suspicious anteroseptal wall infarction, Atrial flutter, and Peaked T wave. Respondents with abnormal ECG findings were referred to a cardiologist for further evaluation and management.

4. Relationship between Respondents Profile and the Top 10 Uncovered Diseases at the Time of Examination

This study also investigated the relationship between the profile of the UNP personnel (age, sex, and type of employment) and the presence of the top 10 uncovered diseases during the examination, as seen in Table 4.

Table 5. Relationship of UNP Personnel Profile and the Top 10 Uncovered Diseases at the time of Examination

Top 10 Uncovered Disease	Age	Sex	Type of Employment
Urinary Tract Infection	-0.026	-0.189	-0.032
Hypercholesterolemia	0.115	-0.038	.065**
Impaired Fasting Glucose	0.097	-0.032	0.126
Hyperuricemia	-.006 ^b	.098 ^b	.014 ^b
Heart Problem	.094**	-.094**	-0.013
Hypertension	-0.026	0.124	.156**
Anemia	-0.078	-0.151	.054*
Diabetes Mellitus	.090**	0.107	0.128
Entamoeba	0.078	0.041	0.090
Tuberculosis	-0.050	0.005	0.042

Note: **significant at the 0.01 level

*significant at the 0.05 level

b. Cannot be computed because at least one of the variables is constant.

There is a highly significant relationship between the age of the respondents and the following uncovered diseases: heart problem/s ($r=0.094$, $p<.01$) and diabetes mellitus ($r=0.090$, $p<.01$). This means that those who are older tend to have these uncovered diseases more than younger ones. This suggests that older respondents tend to have uncovered heart problem/s and diabetes mellitus more than younger respondents. This is similar to earlier findings, as reflected in Figure 1, where there are more cases of these diseases in older respondents than younger ones. Aging is closely linked to cardiovascular and metabolic disorders such as type 2 diabetes mellitus (Suastika et al., 2012). Age is a significant factor in the decline of cardiovascular functionality, accompanied by additional risk factors like obesity and diabetes, which may complicate and enhance cardiac risk factors associated with advanced age (Rodgers et al., 2019). Aging-related changes to the heart and blood vessels can raise a person's risk of cardiovascular disease. In addition, the aging of other organ systems can also likely contribute to heart diseases (NIH National Institute on Aging (2018). Increased insulin resistance may be caused by decreased lean body mass and increased body fat, particularly visceral adiposity, which often occurs with aging. Aging also causes a decrease in insulin sensitivity, proliferation capacity, and apoptosis sensitivity (Suastika S. et al., 2012). The relationships between the age of the respondents and the other uncovered diseases are not statistically significant. This implies that whether the respondents are young or old, they still tend to be diagnosed with these uncovered diseases.

Meanwhile, the relationship between sex and the presence of uncovered heart problems is highly significant ($r=-0.094$, $p<.01$). This suggests that female respondents tend to have uncovered heart problems more than male respondents. This supports earlier findings (see Figure 1 2), where more female respondents have uncovered heart problems than males. Generally, women have a lower incidence of cardiovascular diseases than men. However, women with cardiovascular diseases have higher mortality and lower prognosis. Because of the misconception that women are more 'protected' against CVD than men, the risk of cardiovascular disease in women is frequently underestimated (Gao et al., 2019). Unusual symptoms like nausea or vomiting, shortness of breath, dizziness, or no symptoms are more common in women. In addition, no prior symptoms were present in 64% of women who died suddenly from coronary heart disease (Gaggin & Oseran, 2020). On the other hand, sex has nothing to do with the presence of other uncovered diseases.

The type of employment of the respondents is significantly correlated with the presence of uncovered hypercholesterolemia ($r=0.065$, $p<.01$), hypertension ($r=0.156$, $p<.01$), and anemia ($r=0.054$, $p<.05$). This means non-teaching respondents in the university are more likely to have uncovered hypercholesterolemia, hypertension, and anemia. This is consistent with earlier findings that more non-teaching personnel have these uncovered diseases. Research led by Dr. William Tigbe found that desk jobs are associated with higher triglycerides and lower cholesterol due to having longer time spent in a sedentary posture (University of Warwick, 2017). In addition, working long hours at a desk may increase the risk of undiagnosed hypertension (Carroll, 2019). Moreover, the type of employment resulted in an insignificant relationship with the presence of the other uncovered diseases, which suggests that teaching or non-teaching personnel may tend to have these uncovered diseases.

Conclusions

This study describes the demographics of the UNP personnel. The majority are middle-aged adults (43.93%), female (52.86%), married (73.93%), and belong to the teaching staff (72.14%). Results of the study show that the respondents are fit to work in their respective fields despite the presence of various diseases. Respondents with normal body mass index comprise (45.93%). Two hundred thirty-five out of two hundred-eighty respondents (83.93%) had no co-morbidities. However, 40.71% of the respondents have satisfactory health status, while 59.29% have unsatisfactory health status. The most common cause of morbidity at the university was discovered to be hypertension. The Annual Medical Examination has uncovered

several health problems, which may contribute to employees' poor work performance if they are not detected and corrected early. According to the study findings, urinary tract infection was the most uncovered disease among respondents (14.64%) at the time of examination, along with hypercholesterolemia, impaired fasting glucose, hyperuricemia, heart problems, hypertension, anemia, diabetes mellitus, entamoeba, and tuberculosis.

Moreover, the study shows a highly significant relationship between the age of the respondents and uncovered heart problem/s and diabetes mellitus. In addition, there is a highly significant relationship between sex and uncovered health problem/s. On the other hand, the type of employment is highly significantly related to the presence of hypercholesterolemia and hypertension and significantly related to anemia.

Recommendations

Therefore, it is recommended that all government and non-government agencies must require all their employees to undergo Annual Medical Examinations for early detection and treatment of any health problem. Since the study could not explore the possible factors affecting the uncovered diseases, investigating other variables like income, lifestyle factors (i.e., smoking, alcohol consumption, physical exercise), and health- and information-seeking behaviors is recommended. In addition, using the results of this study as a reference, it is recommended to consider the prevalence and incidence of these uncovered diseases in public health education and promotion campaigns in the university. The results of this study serve as a basis or guide for the targeted health and wellness programs and activities to be implemented in the university to improve the health of the university workforce.

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