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#### ABSTRACT

The article in question is an internship experience report: during the pandemic, it addresses the routines and questions regarding the difficulties, which is only possible due to the practices and theoretical background provided during the 3 years of course by the institution, thus preparing for this moment the internship and long training and the work environment. I use this work as a general objective: to report experience experience in the internship during the pandemic, in addition to applying the knowledge acquired in the classroom and take it into practice applying it in the laboratory routine. In its methodology, it is concerned with

bringing the motivations and showing the main practices of a laboratory: HDL, VDRL, rheumatoid factor and PCR, PCR and VDRL dilution, ASO, Blood typing, NCOVA, calcium, ESR, glycated hemoglobin, HCV, HBSAG, HIV, Troponin T, Occult blood, already in the development we have the rapporteur of the experience in general and individual of each place in which it was passed. Finally, considering the experience of extreme value, where it was possible to learn a lot, both for each place passing, as due to the possibility of internship in a pandemic can make a difference in people's lives, and seeing in practice the difficulties passed by the professionals of the area due to all the circumstance. Concluding that without the internship it would not really be possible to really have a complete formation, where it is possible to see everything and improve even more.

**Keywords:** Internship, Report, Pandemic.

## 1 INTRODUCTION

The experience report according to UFJF is nothing more than a text that describes in detail a given experience that can add considerably to its follow-up of action. It is the characterization that an author or a group makes of a professional experience considered positive or not, but that contributes to the discussion, exchange and proposition of ideas for the improvement of health care.

Being this report of extreme importance for obtaining the degree in Biomedicine, without it you can not conclude the graduation being thus of fundamental importance, so that there is the obtaining of the title and more for biomedicine, it also determines the area of qualification, which is the field in which the staff choose to act, so that the same can come to be released to act in this same segment in which he trained.

The internship field chosen by me was clinical pathology, which is a science of the health area where the Biomedical responsible for performing microscopic examinations of cells, organs and tissues of the human body, or even macroscopic of cells, organs and tissues of the human body, or even macroscopic of surgical parts.

The first stage was the internship period from February 22 to 26, where then there was a break of 1 month due to the pandemic situation, where it was returning on March 30 and continued until June 30, stopping now for the holidays, where this period of time I went through three locations, being the

UPA BH, I spent 3 weeks with the preceptor Mara Aline then I went to Wilson and spent 6 weeks with the preceptor Vinicius Pharmacist, where after that time I returned to UPA BH, where I only spent 1 week, going soon after to the PAM where the first week of internship occurred before the break of a month, in the PAM I spent a month with the preceptor Letícia Fernandes, where I had the opportunity to go through several sectors, collection, uroanalysis, parasitology, biochemistry, despite being all automated.

Stage 2 started a few weeks after the holidays in the period from August 19 to October 22, where this period of time was divided into two locations, in which I spent 5 weeks in each with the preceptor and my duo for these internships, the first internship camp was the CEPAC with the preceptor Nayara Gurgel who taught me a lot, showing the care for each patient, concern, thus doing the work with more humanity, humanized, the concern with each patient in provides the faithful result, working thus with duplicate, doing test, for the second and sometimes even third as it presents some alteration and also having a team in which it has a support laboratory, for tests that are not done directly in the laboratory and in cases of result that need even more attention.

## **2 OBJECTIVE**

### **2.1 GENERAL OBJECTIVE**

Report experience experience in the estágio during the pandemic, in addition to applying the knowledge acquired in the classroom and take to practice applying in the routine of the laboratory.

### **2.2 SPECIFIC OBJECTIVE**

- Developing greater technique and aptitude with routine;
- Gaining greater skill.

## **3 METHODOLOGY**

### **3.1 EXPERIENCE RAPPORTEUR**

The experience report according to UFJF has according to its essence motivations or methodologies for the actions taken in the situation and the considerations/impressions that the experience provided to the person who experienced it. The report is made in a contextualized way, with objectivity and theoretical contribution. Therefore, it is not just any subjective narration, nor just a narration of facts.

### 3.2 HDL

- Tube 1 – 100 µl reagent – colest Enz. + 100 µl patient sample = homogenizes and centrifuges for 4 min.
- Tube – Removes from the centrifuged tubes 50 µl of the supernatant + 500 µl of the total cholesterol.
- Go to the water bath for 10 min and then do the reading in Bioplus.

### 3.3 VDRL

- Kline plate
- 50 µl of the sample
- 20 µl of the reagent
- 4 min in the shaker
- Visualization under the microscope

### 3.4 RHEUMATOID FACTOR AND CRP

- 25 µl of the sample on the latex plate
- 25 µl of the reagent in the latex plate at the same site of the sample
- With the pipette lock homogenize the sample and reagent distributing it well in the circle
- Place the plate in the stirrer for 2 min, so it is taken for viewing under the microscope.

### 3.5 PCR AND VDRL DILUTION

- If any sample gives reagent is made the dilution;
- And s-numbers and the tubess. Ex: 1/2, 1/4, 1 /8  
physiological;  
100 µl of the serum is placed in each tube
- In the 1/2 tube, 100 µl of the patient's serum was placed and homogenized with the tip;
- From this homogenized tube 100 µl was removed and placed in the next tube - 1/4,
- From the 1/4 tube, 100 µl is also removed as it did in the 1/2, thus doing so in tubes, always removing 100 µl from the dilution prior to which it is being made.
- After dilution, 25 µl was placed in the black plate plus 25 µl of reagent is mixed with the pipette tip and distributed well in the circle;
- The agitator was taken to the agitator for 4 min in the case of VDRL and 2 min for PCR.

- In the case of VDRL, 50 µl of the dilution of each tube was placed in the wells of the kline plate + 20 µl of the reagent

### 3.6 ASO

- Black background plate – latex
- 25 µl of the sample
- 25 µl of the reagent
- Distributes and mixes well throughout the circle
- Agitator for 2 min
- Removes 20µl or 25 µl for viewing under the microscope

### 3.7 BLOOD TYPING

- 4 tubes
- 1000 µl saline solution
- Remove 50 µl from 1000 µl
- Add 50 µl of the sample in the 3 tubes identified with the patient's number and with A another B and in another RH;
- One drop of the specific referring reagent was placed in each corresponding tube.
- Centrifuge for 1 min
- Shakes and checks the formation of buttons or not;
- Reagent buttons and no buttons, no reagent.

### 3.8 NCOVA

- Swb in reagent
- Pinga 4 drops on k7 and counts 20 min.
- Check result as soon as you give the time

### 3.9 CALCIUM

- Plastic tube
- 15 µl of the patient's serum + 1000 µl of the reagent
- 2 min in a water bath
- Takes to do reading

### 3.10 VHS

- Insert the capillary into the patient's whole blood
- Let the blood travel through the capillary. It doesn't let fill everything.
- When he reached a few inches near the blue tip, he covered himself with his finger.
- be careful not to move, turn the capillary;
- Dough was placed at the opposite end of the blue marker.
- Wait 1h
- Then check and check by the card for hematocrit reading

### 3.11 GLYCATED HEMOGLOBIN

- 5  $\mu$ l of whole blood was placed in the ependophilus
- The pipette was washed inside the ependophilus
- It was taken to the homogenizer for 3 min with increased speed
- Took the kit with the K7 and buffer solution
- Identified the K7
- K7 was turned over and 25  $\mu$ l of the ependophilus solution was placed
- Plus 25  $\mu$ l of the buffer solution
- It took to do the reading on the equipment
- Where the calibration of the equipment is done before

### 3.12 HCV

- 10  $\mu$ l of serum
- 3 drops of the reagent
- Result verifies within 10 to 15 min, no more than that and no less.
- Always identify tests

### 3.13 HBSAG

- 100  $\mu$ l of serum
- Result verifies within 10 to 20 min, no more than that and no less.
- Always identify tests

### 3.14 HIV

- 10  $\mu$ l of serum
- 3 drops of the reagent

- Result verifies within 10 to 20 min, no more than that and no less.
- Always identify tests

### 3.15 TROPONIN T

- Collects blood in the heparin tube of the green cap
- Leaves in hematological homogenizer
- I inserted in the cobas h 232 the troponin T test
- Identifies
- Removes 150 µl from the blood
- The 150 µl of blood was placed in the cobas h 232
- Collects blood in the heparin tube of the green cap
- Leaves in hematological homogenizer
- I inserted in the cobas h 232 the troponin T test
- Identifies
- Removes 150 µl from the blood
- The 150 µl of blood was placed in the cobas h 232
- After processing, check: result above 40mg the person will be infarcting.

### 3.16 OCCULT BLOOD

- Take the occult blood test, check if it is sealed
- Take tube and open takes the toothpick of the tube and pin all the feces
- Then seal again and shake
- Let it act for 15 minutes
- Then take off the tip and prick 2 drops at the base of the test
- Already identified everything, let act 15 minutes and check the result
- Must in all tests always presents, sample the control the trace in C.

## 4 DEVELOPMENT

The internship is nothing more than the practical experience of what was learned throughout the graduation is the preview of what awaits when we form the knowledge of the routines and the field, of the details that it is only possible to learn by living, where we put into practice everything that was learned over these 3 years, Only by reaffirming our capacity in the face of what has already been experienced in college and passed by the professors, in addition to what is provided by Rodizio, realizes that each laboratory has its routine, and dynamics according to the demand and that it is

necessary to be respected so that everything works well. It was also possible to notice the loneliness of the health professional, having to deal due to the pandemic to be away from family, often having to leave home or stay in one as away, not being able to touch his family and friends, without at least seeing. In addition to the exhaustion of the hospitals, UPAS and laboratory crowded and the teams getting sick, in addition to the thousands of dead, it was also possible to realize how important the stages in the teams are to be able to cope.

#### 4.1 CLINICAL CENTER

Municipal center clinical , where goes all the demand of the municipality in examinations of different types. Starting his routine in the laboratory with the collection at 6:30 and goes until 8 am, going to parasitology of 15 to 20 feces per day on a normal day and urinalysis that is routinely in a range of 70 to 90, but both have their peak days, seeing after holidays, recess and on Mondays and Fridays.

Going to the laboratory itself where tests are done: blood typing, cholesterol, tri, tgo, tgp, pcr, hiv, hbsag, hcv, urea, creatinine, psa, prolactin, VDL, blood count, hemoglobin, eas, epf, uric acid, sodium, potassium, TSH, T4, total proteins, iron, ferritin and serum iron.

Being an automated laboratory, but that even so it was possible to circulate through the various areas of the laboratory and really participating in the routine, also doing blood smears, blushing and viewing under the microscope the slides of blood, urine and feces.

Below are some images of the lab:

Figure 1 – Centrifuge



Source: Self-authored, 2021.

Figure 2 - 9180 electrolyte analysis - (Roche)



Source: Self-authored, 2021.

Figure 3 - pH Measuring Tape



Source: Self-authored, 2021.

Figure 4 - ROCKING MIXER



Source: Self-authored, 2021.



Figure 5 - Sysmex XS-800i



Source: Self-authored, 2021.

Figure 6 - cobas and 411



Source: Self-authored, 2021

#### 4.2 UPA

The Emergency Care Unit (UPA), it is being used in the fight against COVID-19, making the care and hospitalization of people with covid and suspects.

The routine currently of the upa laboratory is basically being to treat hospitalized patients of covid and some suspect, where you have the most intense routine in the morning and afternoon only some examination that seems, usually is lighter in the afternoon, the demand reduces a lot.

The tests done in the laboratory are rapid covid test, rapid covid swab test, swab, The Immuno-RAPID Troponin, rapid dengue test, EAS, biochemical tests that are all performed at COPAS C111, having in its menu of tests: Substrates: Iron, Lactate, Phosphorus, Cholesterol, HDL Cholesterol, Direct Bilirubin, Total Bilirubin, Calcium, Glucose, Magnesium, Total Protein, Triglycerides, BCG albumin, creatinine, urea, uric acid; Enzymes: Creatinine Kinase (CK), CK-MB, Amylase - pancreatic, Amylase - total, Lipase, Alkaline Phosphatase, ALT, AST, GGT, Lactate, Dehydrogenase; Proteins, CRP, D-dimer, HbA1c (hemolyzed), HbA1c (whole blood), Microalbumin; ISE: Chloride, Potassium, Sodium M.

Figure 7 – Microscope



Source: Self-authored, 2021.

Figure 8 - COBAS C 111



Source: Self-authored, 2021.

Figure 9 – Sysmex



Source: Self-authored, 2021.

Figure 10 - Cobas h 232



Source: Self-authored, 2021.

#### 4.3 HOSPITAL

The Hospital is a private hospital where it has one of the greatest demands of the municipality, where I had the opportunity to intern for almost 2 months.

The hospital laboratory has an intense routine for blood counts, biochemicals, there was also a demand every day there was urine and feces, also had the rapid tests for covid, HIV, syphilis, but there was no demand to do every day but every week you had.

Routinely, every day I did blood smears, colored the slides, and visualized in the microscope where I did the count and observed the cells, and also made urine every day visualized them in the microscope observing them and reporting with the help of the preceptor always checking if everything was correct.

Figure 11 – Centrifuge



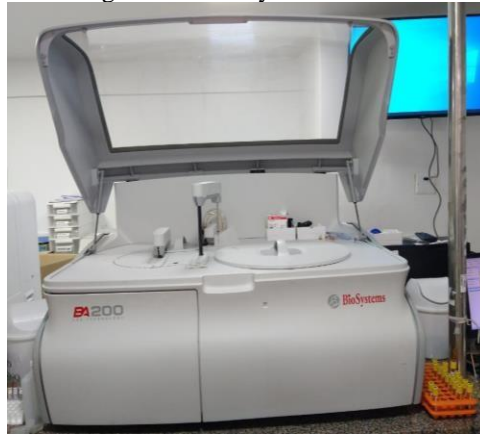
Source: Self-authored, 2021.

Figure 12 - Sysmex XT-1800i



Source: Self-authored, 2021.

Figure 13 - BioSystems BA200



Source: Self-authored, 2021.

Figure 14 – IMMULITE



Source: Self-authored, 2021

#### 4.4 LABORATORY

The Laboratory is a private clinic, where I had the opportunity to learn a lot in the laboratory, where there is a very intense routine where almost all your routine is manual which required a lot of the team, attention and dedication but is still all under our control.

From the collection that starts at 6:30 a.m. and goes until 8 a.m. to 9 a.m., where the blood is separated those that go to the Hematology Homogenizer that are the weak edta and heparin hemogram tests, tests such as: blood count, blood typing, glycated hemoglobin the common ais in the routine of CEPAC. Those who go to centrifuge to obtain the serum for the performance of various tests, being the most frequent in the day-to-day are: HIV, HCV, HBsAg, BetaHCG, PCR, HDL, Ferritin and ASO. Where these tests almost all are done in a Manuel way, just not the blood count.

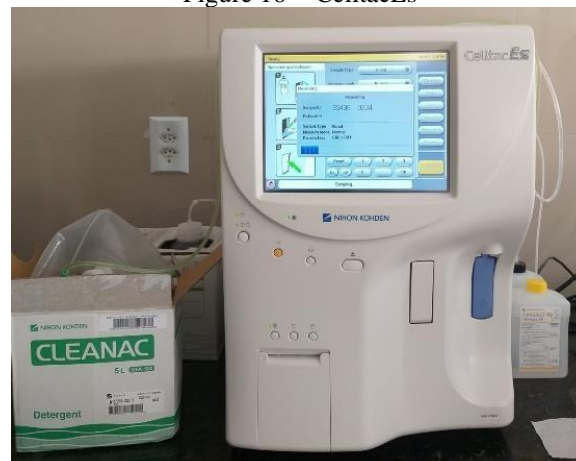
In the laboratory is provided the most diverse tests. Below are some images of the main equipment used:

Figure 15 – A15



Source: Self-authored, 2021.

Figure 16 - CelltacEs



Source: Self-authored, 2021.

Figure 17 – GT-201BD Kline Shaker



Source: Self-authored, 2021.

Figure 18 – HOMOLAB: BLOOD HOMOGENIZER



Source: Self-authored, 2021.

Figure 19 – FANEM – WATER BATH



Source: Self-authored, 2021.

Figure 20 – Centrifuge



Source: Self-authored, 2021.

#### 4.5 UPA

The routine currently of the upa laboratory is returning to its normal little by little, since the cases of covid have reduced and not being more frequent appear suspicious people, where you have the most intense routine in the morning and afternoon only some examination that seems, usually lighter in the afternoon, the demand reduces a lot.

### 5 FINAL CONSIDERATIONS

The report of internship experience in Clinical Pathology (clinical analyses) during the pandemic, in which the internship was provided by the educational institution in order to contain the title of Clinical Pathology, behind in its didaca rotations by several clinics, was essential for my training for a better preparation for the job market, allowing to see several routines, participate, contributing with my services, working within all sectors from collection, separation, hematology, biochemistry, rapid tests, calibration of devices, visualization under the microscope, uroanalysis, parasitology. In addition to having gone through all these processes and, an atypical situation, during a pandemic, I became even more prepared. In addition to teamwork always using ethics, biosecurity and patience. All this made me a qualified professional to already enter the market to work, taking the title of Biomedical qualified in Clinical Pathology.

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