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Learning Experience Of Team Leaders, Students, And Technicians Of Unani During Blood Samples Collection In Field Visits-A Descriptive Observational Study.

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Abstract

Background: This study set out to examine how COVID-19-affected and unaffected patients in 20 different wards around Malegaon were treated by their new team leaders, students, and technicians while they collected blood samples. Team leaders, students, and technicians all play crucial roles in helping participants with the blood-sampling process, which is used to measure IgG and IgM levels of immunity in Malegaon residents who have and have not been infected with COVID-19. Pre-analytical mistakes are unfortunately common throughout the blood sample collection process and may have negative effects like repeating the sampling process. Plus, some say that needle procedures are the most unpleasant. However, the team leaders, students, and technicians' personal experiences with

mistakes made while collecting blood samples are unknown. Thus, the goal of this analysis is to the Learning Experience of Team Leaders, Students, and Technicians of Unani during Blood Samples Collection in Field Visits. A Descriptive Observational Study.

Method: We used Braun and Clarke's (reflexive) thematic analysis (TA) procedure for conducting our qualitative research. Twenty team leaders from Malegaon's twenty wards participated in four focus groups to discuss their experience of the blood-sample-gathering process.

Results: The following main themes emerged when we analyzed the data from the four focus groups: "Participants' blood sampling is a challenge for the team leaders, students & technicians". The four sub-themes "team leaders, students & technicians' feelings of frustration with unsuccessful samplings, team leaders, students & technicians believe in teamwork, Venous blood sampling was experienced as the best option, team leaders, students & technicians 'thoughts and needs regarding skills development in participants blood sampling process and convincing".

Conclusion: Based on the narrative findings of this research, it is clear that collecting blood samples from participants is a significant problem for team leaders, students, and technicians working in Malegaon's 20 wards. When blood samples failed to turn out, it was frustrating for team leaders, students, and technicians, who frequently had no idea what caused the errors to arise in the pre-analytical phase. Despite this, they felt fortified by the other members of their team and had a sense of obligation to aid one another during the process. Study findings suggest that team leaders, students, and technicians should work to strengthen their guidelines and persuasion skills while also boosting their competency in the blood collection of participants.

Keywords: Covid-19, Team leaders, students & technicians' experiences or perspectives, Thematical analysis, Focus group, Participants, Blood sampling procedure.

I. History andBackground:

Coronavirus (COVID-19) was first detected in humans in 2019 with the first reported case coming from Wuhan, China. Over 100 million confirmed cases and 2.35 million fatalities have been attributed to this unique sickness in the twenty-first century; in South Korea alone, there have been 81,000 confirmed cases and 1,400 deaths [1]. Team leaders, students, and technicians in various wards all play a vital role in assisting participants throughout the experience and mitigating any negative side effects that may arise from taking blood samples. Accurately investigating IgG and IgM levels in blood samples to rule out immunity requires a proper collection of blood samples. There are 3 stages in the analysis of a blood sample: post-analytical, analytical, and pre-analytical. The pre-analysis phase includes the planning, conducting, and transporting of blood samples to the laboratory, where the analytical phase will begin [2]. It has been discovered that pre-analytical mistakes are widespread during the collection of blood samples from participants, which poses a danger to the participants' safety and comfort. As a result of pre-analytical mistakes, there may be several erroneous investigations and unnecessary resampling [3]. Haemolysed samples, empty or unsuitable samples, clotted samples, improper containers, incorrect patient identification, and transport issues are reported as the most prevalent pre-analytical mistakes in the literature [4]. To provide excellent patient care and collect high-quality blood samples from study participants, team leaders, students, and technicians must undergo

extensive training and pay close attention throughout blood sample collection [5-6]. Blood samples and needle procedures were among the worst experiences reported by participants [7]. Because blood drawing may be painful and distressing, patients typically resist participating [6]. The interface in the field between the participant the team leader, students & technicians is also complex. Listening to the participant's pain, proposals, and discomfort can be limited during invasive procedures. The "World Health Organization" (WHO) phlebotomy guidelines [8] deliver some structured data for example, how to approach participants' different developmental stages, anatomical challenges, and ages, and how one can prevent pre-analytical errors.

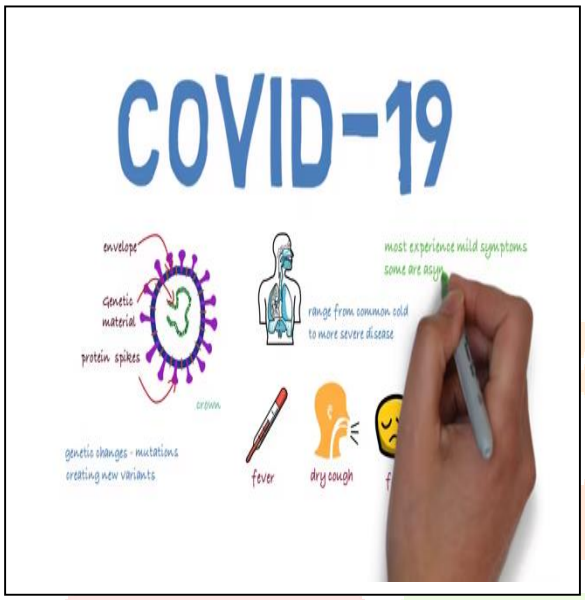


Fig. No. 01 Covid-19- A worldwide pendamic in 2019

Fig. No. 02 Covid-19- A worldwide pendamic in 2019

There is a dearth of data describing how team leaders, students, and technicians handled the blood sample process with participants, or how often pre-analytical mistakes occurred. Their insights are crucial for the development of aligned treatments, including individualized instructional strategies for lowering the prevalence of pre-analytical mistakes in the future.

A. Aim: To learn the Experience of Team Leaders, Students, and Technicians of Unani during Blood Samples Collection in Field Visits.

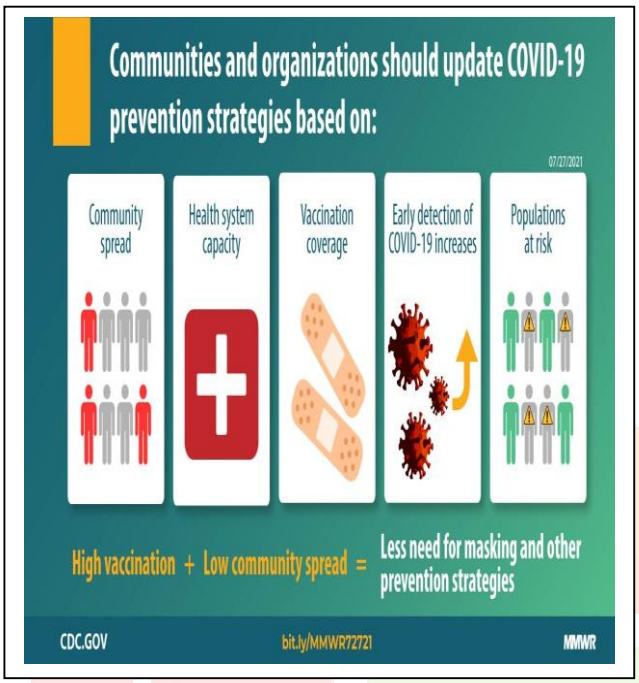
B. Method:

a. Study Design:

To conduct this research, we used a thematic content analysis strategy [9-10], employing in-depth interviews with 20 ward-level team leaders.

b. Data collection:

We interviewed four groups of team leaders, students, and technicians who collect blood samples from patients in various wards. People's experiences and perspectives may be best described via focus group interviews. High-quality data is the goal of focus group interviews, and this is achieved by placing participants in a group setting where they may discuss and consider their own opinions concerning those of others [11]. Comprehensive reporting was ensured by using the COREQ checklist (Consolidated criteria for reporting qualitative research) [12].



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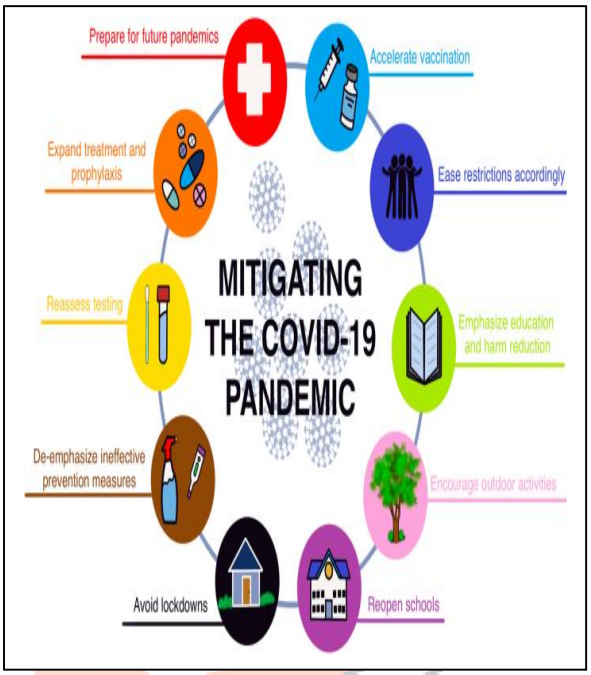


Fig. No. 04 Safty anf prevention in Covid-19- WHO guidlines

c. Sampling:

Using a stratified random sample technique, this research identified several heterogeneity clusters comprised of team leaders, students, and technicians at various points in their fieldwork. Finding people who can provide you with detailed knowledge of the phenomenon you're studying is another goal of purposeful sampling [11]. The team leaders, students, and technicians all addressed the participants individually to provide them with information.

The initial author (HH) created a flexible interview guide, which was then debated and improved by the other writers (NA, BMY). Open-ended questions were asked at the outset of each interview, followed by more in-depth questions [11]. The first interview was performed by NA. During the second interview, NA and BMY were there, and during the third and final session, NA and HH were present. Each one lasted between twenty and thirty minutes.

d. Participants:

Different types of team leaders, students, and technicians with varying degrees of experience and education were represented in the focus groups. Their clinical history is summarized in Table 1. During the times of the interviews, a formal consent form was given out and signed.

e. Setting:

This analysis included applicants from twenty different wards of Malegaon which were selected randomly. The team leaders, students & technicians from different wards were approximately 2735 participants of different age groups of twenty wards covered by the research team. Malegaon Corporation's interview rooms were spacious and well-appointed to let interviewees feel at ease.

f. Data analysis:

The transcribed interviews were analyzed using an applied technique based on a theoretical framework of qualitative (reflexive) thematic analysis (TA). Qualitative research allows researchers to get insight from the viewpoints of their subjects, and it may be tailored to explore a broad variety of topics via various means, such as through the collaboration of project managers, students, and technicians.

g. Ethical considerations:

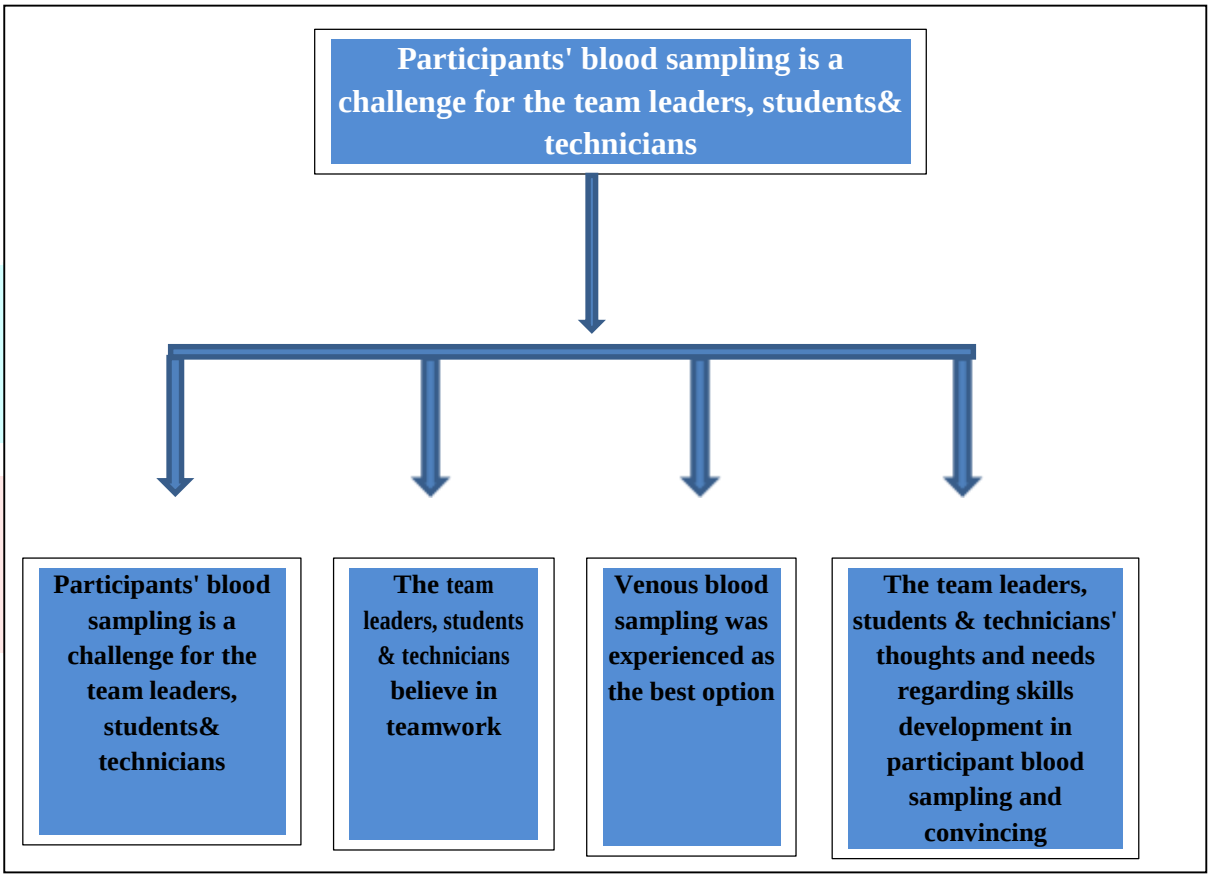
Everyone who was asked to participate in the research — team leaders, students, and technicians did so willingly. Both verbal and written information regarding the research and the participants' choice to withdraw were provided to them before they agreed to take part. There was an agreement of secrecy between all parties involved, and everyone's identities were kept secret by code except for the initial author (HH). The research project was given the go-light by the MUHS and the Maharashtra State Government's Health Department.

II. Results:

Using the transcripts from the focus groups, we were able to deduce a central theme and four supporting ones. “Participants’ blood sampling is a challenge for the team leaders, students& technicians” was the overall main theme. The four sub-themes were: “team leaders, students & technicians’ feelings of frustration with unsuccessful samplings”, “team leaders, students & technicians believe in teamwork”, “Venous blood sampling was experienced as the best option”, and “team leaders, students & technicians’ thoughts and needs in regard to developing skills in participants blood sampling and convincing”. These ideas are introduced in the form of a narrative, with quotations from the team leaders, students, and technicians discussing their interactions with participants throughout the blood-collecting process providing context.

Table1 Demographics of Participants

Interviews Number	Participants (n)	Workplace	Degree of Team Leaders, Students and Technicians
Team leaders Group1	804	5 Wards	M.D., BUMS Interns and Lab Technicians
Team leaders Group2	691	5 Wards	
Team leaders Group3	629	5 Wards	
Team leaders Group 4	611	5 Wards	



A. Main theme: Participants' blood sampling is a challenge for the team leaders, students& technicians

Taking blood samples from participants for COVID-19 immunity detection was seen as more difficult by team leaders, students, and technicians than by other adults. They thought it was more difficult and time-consuming to conduct a sample. The issue surrounding the puncture as a whole was more challenging than just the puncture itself.

"Yes, there's a huge difference when you're working on other adults but with a participant, it could be a process that takes a maximum time for convincing about COVID-19". (Team Group 2).

The team leaders, students, and technicians believed that to guarantee that the blood sample technique was performed without a hitch, they needed to first increase the participant's confidence. It

was crucial to instill confidence in the team leaders, students, and technicians since they were aware that the technique may be repeated numerous times during the procedure. Another difficult component was feeling anxious and wanting to provide high-quality care but failing. When the informants began working with the Malegaon participants to explore COVID-19 immunity, their confidence, which was often gained from experience in other adult care, began to wane.

It was difficult for the team leaders, students, and technicians to navigate ethical and moral dilemmas linked to the blood draw, particularly when they had to act against the participants' wishes. Repeating the blood drawing process many times, in the opinion of the team leaders and students, was inhumane. However, since the sample was essential to the diagnosis and effective administration of the research project, the team leaders, students, and technicians sometimes felt they had no other alternative.

"How many times is it humane to needle a participant? That's always the ethical question that's difficult". (Team Group 1).

Another tough component of the blood sample process was working with the whole family. The participant and other members of the family could often interfere and make the team leaders, students & technicians' relationship with the participant difficult. E.g., The team leaders, students, and technicians could hear comments from the family that make them upset or irritated.

"No, it's not really ideal when a family member says: "here come the mean the team leaders, students & technicians to jab you (laughing) and it'll hurt". (Team Group 2).

Occasionally, family members of the participant would try to reassure them that the blood collection technique would "go fine with no pain" and that it would be just "one job" even though the team leaders and students knew this was not the case. There was a lack of trust and confidence among the team leaders, students, and technicians as a result of this. The team leaders, students& technicians often had to deal with the fears and anxiety of both the family members and participants.

The team leaders, students, and technicians all acknowledged the possibility of additional difficulties when working with people of different ages or those with special needs. E.g. participants not convincing by team leaders, students & technicians made the process even harder. The team leaders, students, and technicians discussed how the lengthy sample procedure may make it difficult to schedule their tasks. In addition, the participants acknowledged the importance but also the difficulty of times like preparations.

"Sometimes when you go in to take samples it all goes really smoothly and that's good but quite often you have to give yourself time to ensure it goes well, the next time and the time after that". (Team Group 2).

There were times when the participants' low self-confidence was difficult to manage. When a coworker was having trouble with a patient, it was less of a challenge to assist them.

B. Sub-theme 1. Team leaders, students& technicians' feelings of frustration with unsuccessful samplings

Several factors of the unsatisfactory blood sample caused frustration among the team leaders, students, and technicians. They may have believed a sample collection went well, but pre-analytical problems like a clot or haemolysis were cited in the hospital lab findings published in the medical journal. The laboratory simply said that the material could not be tested, leaving the team leaders, students, and technicians baffled. Leaders, students, and technicians often put their hearts and souls into a technique, only to be left disheartened, frustrated, and angry when the findings are reported incorrectly.

"You get very angry and I called the lab and asked why it was like this and then they had no real answer so then you get really angry". (Team Group 1).

The team's leaders, students, and technicians all sought to come up with other reasons for the failed sample since they just could not accept that it was their error. What else might it be if not the equipment themselves? Perhaps it's the materials used or the carelessness of the lab technicians. The team leaders, students & technicians' uncertainty and ambiguity seemed to push them into a blaming culture.

"Sometimes I've got the feeling that they just drop the samples and then they (the lab) have the cheek not to report it. Everything went perfectly, and then the haemolysis, you just go what?! Oh no!" (Team Group2).

Even though they weren't sure whether they'd been successful, the team leaders, students, and technicians decided it was best to submit the gathered blood samples to the lab nevertheless. Most of the time, they would say that they were only worried about the participants and didn't want them to have too many punctures. (Team Group 4)

On rare occasions, there was a need for assistance that was unmet due to a lack of resources and weak lines of communication. The team leaders, students & technicians felt upset, bringing their concerns for the participant into focus.

"Yes, but it feels disappointing. I'm not asking for help for my sake – I can push the needle in 2 to 3 times but it's for the participant's sake, isn't it so you don't damage the vessels." (Team Group1).

Team leaders, students, and technicians frequently expressed uncertainty about how to handle the samples or what caused pre-analytical errors in their own sampling when interviewed.

C. Subtheme 2: The team leaders, students & technicians believe in teamwork

The team leaders, students, and technicians all agreed that having facilitators present would make blood collection less of a hassle. They reasoned that having at least two or three other people there would be beneficial, as it would allow them to employ distraction methods and handle the samples effectively, and that having a supportive team and excellent communication would contribute to successful sampling.

"...better if there's more of you, not just for distraction but also so you have someone who can hand you things, stand and turn tubes". (Team Group 3).

The team leaders, students & technicians felt that physical, as well as psychological support from each other, was important for a qualitative sampling procedure. They indicated that they might call for assistance and, if required, modify the blood-collecting technique or even the person in charge of the needling on the spot.

"…but it's also thanks to having such great backup and support from our colleagues that no one ever sighs when you ask for help, they're very positive and cheerful". (Team Group 1).

The interviewees' leaders, students, and technicians all showed empathy for the participants by sharing stories from their own experiences. They thought it was crucial to have open lines of communication between the staff and family members.

"But they (the family members) are really important in it going well. Because if they start getting stressed about things or say stuff that has nothing to do with it or whatever, it can go belly up because of it". (Team Group 2).

D. Subtheme 3: Venous blood sampling was experienced as the best option

One more sub-theme was "Venous blood sampling was experienced as the best option". Capillary and venous blood samples were mentioned as two of the several sampling procedures. Participants spoke to one another and asked each other questions regarding their preferences throughout these sessions. After weighing the benefits and drawbacks, all discussion groups agreed that venous sampling was the way to go. Team leaders, students, and techs all agreed that if blood samples were taken from a vein, they would be more likely to be of high quality.

"If you've learned venous it's easier than capillary, better flow and it increases the chances of getting good samples". (Team Group 1).

"It depends on the participant I often think it hurts more if you sample the finger." (Team Group4)

E. Subtheme 4: The team leaders, students & technicians' thoughts and needs regarding skills development in participant blood sampling and convincing.

Finally, "The team leaders', students', and technicians' thoughts and needs regarding skills development in participant blood sampling" emerged as a central subtheme. Members of the leadership team, as well as students and technicians, shared their experiences of being unprepared to care for study participants and discussed the information they wished they had learned in orientation courses or universities. There was also a perception among some students that crucial details were left out of their instruction about the unique aspects of taking blood samples from college students as opposed to other adults. Team leaders, students, and technicians all agreed that learning by doing and watching others was the most effective method of acquiring new information. When asked to reflect on their knowledge and skills regarding the people whose blood was being sampled, they said that they often wanted to "join in" with more experienced colleagues doing blood sampling operations to learn "tips and tricks" for their usage. Members of the first focus group indicated a desire to take an annual CPD course on sampling methods.

"Everyone should get trained…just like getting CPR once a year, you can have needle training once a year." (Team Group1).

Another factor was that not all team leaders, students, and technicians had adequate training in blood sample preparations, methods, and participant blood volume limits.

"The thinking around sampling and perhaps a bit more on which ones I can actually take from capillaries and which ones have to be venous, so that's what I wish I had in my training." (Team Group3).

III. Discussion

The purpose of this research was to document how team leaders, students, and technicians at Malegaon's various wards felt about taking blood samples from people who were either infected with or unaffected by Covid-19. We identified one main theme and four sub-themes from the research data that pertain to blood sampling success or failure. The overall main theme

Main theme: Participants' blood sampling is a challenge for the team leaders, students & technicians

The four sub-themes:

- The team leaders, students & technicians' **feelings of frustration with unsuccessful samplings,**
- The team leaders, students & technicians *believe in teamwork,*
- *Venous blood sampling was experienced as the best option and*
- The team leaders, students & technicians' *thoughts and needs regarding skills development in participants' blood sampling and convincing.*

Describe the team leaders, students & technicians' various occurrences concerning blood sampling in participants. So far as we can tell, these results are original and have not been reported anywhere.

The in general main theme of our analysis was the **Main theme: "Participants' blood sampling is a challenge for the** team leaders, students & technicians"**.** Their comprehensive perspective and care for the fieldwork are shown in the fact that they found the whole technique to be substantially different from sampling other adults. Our findings also showed difficulties in managing parents and other family members with special needs, as well as in the self-assurance of team leaders, students, and technicians. Team leaders and students should be prepared for the possibility that anxious or fearful parents can unintentionally convey those feelings to their charges.

The team leaders, students, and technicians in our research also had to deal with moral conundrums, such as the need of performing unnecessary punctures or even physical restraints on an unwilling participant. Technicians must use clinical judgment in every case and for every patient to determine the most suitable pre-procedure, peri-procedure, and post-procedure measures necessary to ensure the participant's safety and defend their rights.

One of the most intriguing aspects of this research was an examination of "the team leaders', students', and technicians' feelings of frustration with unsuccessful samplings". Leaders, students, and technicians often encountered unsuccessful sampling due to pre-analytical mistakes such as clots, incomplete samples, and haemolysis. When the results of the blood sample analysis came back negative, they were shocked and upset. This conundrum exemplifies the space that exists between

laboratory medicine and clinical medicine, as well as the knowledge gap between the two. When taught about pain management for needle-related operations, such as venous access in participants, team leaders, students, and technicians reported higher work satisfaction, performance, and interaction with patients and families. The same outcomes might be achieved if team leaders, students, and technicians all learned to recognize and avoid common causes of stress and frustration in the pre-analytical phase of every given project. It would have been helpful if the aforementioned blood sample recommendations provided more specific instructions on how to reduce the likelihood of making mistakes in the lab before analysis. Participants in the focus groups did not bring up the topic of reporting failed samplings as occurrences. This was recently shown in another research, in which participants noted a lack of incident reporting routines, procedures, and direction. When members' efforts to collect samples proved futile, they had to put off providing other necessary treatments. Our students and technicians, like those in similar studies, lacked background knowledge of pre-analytical mistakes but were eager to learn more. There were several pre-analytical concerns brought up by the participants, including technological difficulties, poor lines of communication with the laboratory, and a lack of insight into the root causes of clots and other mistakes.

Participants in our survey were given the option to choose whichever sample technique they felt was most effective. Our study discovered they felt that "*venous blood sampling was experienced as the best option",* and this was another theme in this study. The sample method was described differently by seasoned technicians and others with less expertise. The senior technicians cared more about the patient's welfare than their less experienced colleagues. Because of this, encouraging younger students and technicians to take part in Continuous professional development to expand their expertise is crucial. The consensus was that venous sampling was the preferred option since it would allow for improved blood flow and a larger blood sample to be taken. If the directions had been more explicit about when to utilize which sample technique for age and developmental stages and analyses, the students and technicians would have been better served. Even though various sample procedures are associated with varying degrees of risk for both patients and staff, as indicated in WHO phlebotomy recommendations, discussions about patient and staff safety were surprisingly scarce [8]. More often than not, discussions of the procedures centered on how difficult they were to carry out. By consulting with their parents and rallying their fellow team members, the members of "the team leaders, students, and technicians believe in teamwork" found strategies to handle the difficult blood sample process. Our findings, under those of the CLSI venipuncture guidelines, show that having assistance there to help support the patient's arm or divert their attention is helpful [13]. The participants in our research felt that it was crucial for both capillary and venous samples.

"The team leaders, students & technicians*' thoughts and needs regarding skills development in participant's blood sampling"* evolved into our last sub-theme. Leaders, students, and technicians all made several suggestions on how to best educate participants about blood sampling, including

providing a thorough introduction to the technique, providing helpful practical tips, and providing many practice opportunities. Learning via simulations has been suggested as a means of developing competency-based curricula for both students and teachers in technical subjects, with an emphasis on both contextualized and comprehensive knowledge. The participants in this research were students and technicians who had mostly learned their skills in college or via on-the-job training. These results show that both students and technicians need more training and education to properly handle specimens and prevent common pre-analytical mistakes including clots and haemolysis. According to different research, pre-analytical mistakes might be minimized with the use of conventional training and instruction. Experts in laboratory medicine play an important role as well. Students, technicians, and patients will all benefit from enhanced lines of communication and the availability of more resources and training. Cooperation and communication for the benefit of the patient are of the utmost importance throughout the blood sample procedure, which involves many levels of medical care, laboratory medicine, and medical science.

IV. Strength & limitations:

This study's reporting was aided by the COREQ criteria, which contributed to the study's credibility. There is a total of 32 items on the COREQ checklist, split over three different areas: 1) analysis and findings, 2) research team and reflexivity, and, 3) study design and theoretical framework, [12]. Since we could not keep track of who said what throughout the interviews, we decided not to provide the participants with a copy of the transcript (item 23).

Finding participants who are credible because they have experienced the phenomena being studied and can communicate about it is essential [14]. It was the point of our purposeful sample strategy. The researchers in this study employed a technique called focus groups, which may provide rich information and background to their studies. The approach has the potential to create group effects and participant engagement, leading to a teachable moment that would be impossible to achieve via individual interviews alone [15]. To guarantee the reliability, one of the writers (NA) was present for all focus group interviews. One of the writers (NA) was present during the focus groups to provide legitimacy to the results [12].

In Thematic analysis, researcher subjectivity is considered the source that increases the reflexive interaction with the interpretation of data and theory [10]. Our understanding of the data was gleaned from the first author's (HH) deep familiarity with the subject matter. Even if we utilized a more inductive technique, it is relevant to argue that as researchers, we are not in a theoretical vacuum with no past information. The analytical process was consequently more like a constant back-and-forth [10].

While this research may be of interest to phlebotomists, physicians, and other medical professionals who help in blood collection from study participants, we think the results are most relevant to situations where students and technicians are in charge. As a result, you may do a blood sample collection without any distractions and at an optimal level of personal ease.

Pre-analytical mistakes in the care of participants may be reduced by better supporting and educating the students and technicians who do blood samples. Methods that consider the rights of the participants and the most recent findings in the area might help achieve this goal. Educating students and technicians to have higher levels of knowledge, competence, and abilities are essential if we want to see a decline in the amount of future failed sample attempts.

V. Conclusion:

The narrative findings of this research show how difficult blood collection may be for team leaders, students, and technicians out on field trips. Owing to pre-analytical mistakes, team leaders, students, and technicians frequently felt dissatisfied due to poor blood samplings. Teamwork between them bolstered their confidence, and they felt a collective sense of duty to assist one another through this challenging process.

VI. Abbreviations

- CPR: Cardio Pulmonary Resuscitation;
- COREQ: The Consolidated criteria for reporting qualitative research
- (COREQ); CLSI: Clinical and Laboratory Standards Institute;
- WHO: World Health Organization;
- TA: Thematic analysis;
- EFLM: European Federation of Clinical Chemistry and Laboratory Medicine.

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