INTRODUCTION

A physician can participate in a graduate program called Medical Residency. This program, when fulfilled entirely in a single specialization, confers the title of specialist\(^1\). This stage is characterized by a period of “immersion” in the professional activity, with many hours of work and study, caring for patients in complex situations\(^2\).

In 2017, there were 35,187 physicians enrolled in Residency, in 6,574 programs of 790 institutions; 40% of these were specializing in four areas (Internal Medicine, Pediatrics, General Surgery, and Obstetrics and Gynecology); 34.5% of the resident physicians were in São Paulo\(^3\). The bond with the hospital it is educational, but the
resident can work in other institutions in their free time, although this is not recommended. In Brasil, the Law 6,932 of 1981 establishes a maximum of 60 weekly work hours, included 24-hour shifts, with at least one day of rest.

Working at night schedules can lead to worsened performance, increased risk of incidents in the workplace, and the worker’s exposure to environmental stressors that can lead them to premature labor incapacity.

Time management can be understood as the ability to plan which activities should be carried out, how, and when. This planning involves establishing priorities and strategies to achieve them.

In view of the multiple activities carried out by residents, it is important to understand what are the time management strategies adopted, as well as the repercussions of long workdays.

**METHODS**

Eight physicians of the 2nd year of residency at the Medical Clinic of a public university hospital, located in São Paulo, Brasil, were interviewed. They reported their activities over the previous year and how they interfered in their lives. The interviews were recorded and transcribed.

The data were categorized and analyzed using the MaxQDA software. This research obtained the consent of the Committee of Medical Residency of the Hospital studied and was approved by the Research Ethics Committee of FSP-USP. The participants signed the informed consent form, drawn up according to the 466/2012 resolution of the National Council of Research Ethics.

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**TABLE 1. CHARACTERISTICS OF THE RESIDENTS WHO PARTICIPATED IN THE STUDY, SÃO PAULO, BRASIL, 2018.**

| Participant identification | Age | Gender | Participated in the first stage | Medications in use | Children? |
|---------------------------|-----|--------|--------------------------------|--------------------|-----------|
| P1                        | 27  | Male   | Yes                            | No                 | No        |
| P2                        | 26  | Female | Yes                            | No                 | No        |
| P3                        | 27  | Female | Yes                            | Alprazolam         | No        |
| P4                        | 28  | Male   | Yes                            | No                 | No        |
| P5                        | 26  | Female | Yes                            | No                 | No        |
| P6                        | 27  | Male   | Yes                            | Venlafaxine        | No        |
| P7                        | 28  | Male   | Yes                            | No                 | No        |
| P8                        | 25  | Female | Yes                            | Fluoxetine         | No        |

Source: Study data. São Paulo, 2018.
and complexity, which did not happen in the outpatient, elective, and hospital ward internships.

On the demands of complex situations and with critical patients: despite being an important stage of the training, the way it was done was considered inappropriate.

“[...] in the ICU, a stage that traumatized my whole group, we lost many patients... These were very complex cases [...] the worse one was when I had to tell the father of a 19-year-old patient that his son was brain dead! [...] the work hours are demanding, but the worst part was having to live with these stories, with these patients” (P6).

The work hours are often cited as a stressful and tiring factor, which can lead to inappropriate professional behavior. There is a clear perception of worsening quality of service, the longer the work hours. Tiredness appears as a crucial factor, impacting medical decisions and the doctor-patient relationship.

“[...] sometimes there is a moment you are not able to think anymore, you lose your reasoning ability! Sometimes, you give the wrong dose of a medication because of sleepiness. The night shifts usually last 24 hours, because you’re on the Residency during the day and then you have the night shift, so the performance is affected for the worst [...]” (P7).

The day off after the night shift is usually respected (CNRM Resolution No. 4, 2011). However, in some internships, the night shift is extended beyond the usual hours due to the evaluation of patients and discussion of cases. Due to the reduced free time at some internships, the time you would use to rest ends up being used for other activities.

“[...] after the night shift you have the day off, but you don’t sleep because it is daytime and you have things to do... We are not able to rest much during the day” (P3).

“[...] the next day you have post-shift duties, so there was no time in between the night shift and other shifts at other places” (P5).

Learning or professional activity?
The boundaries between learning activities and the use of resident labor are thin.

“Often you feel like you are working... without the assistance that you expected, you feel like you are just working a regular job” (P6).

In an effort to support resident physicians, the Medical Clinic has a mentoring program, in which each tutor counsels some residents in monthly meetings in order to check how they are adjusting to the Residency, assist in the program progress or with personal issues. The residents reported this initiative positively, demonstrating an approximation of the institution/teachers with the student and generating opportunities for sharing experiences and talking.

“[...] we meet to discuss ethical and work issues and everything else. It ends up being an environment where we can talk about things that had an impact on us [...] it is an opportunity to talk things out [...]” (P6).

Housing, financial planning, and domestic activities
All the residents live near the hospital where they study due to the journey time between the workplace and their home. Meals during the internship periods are had almost exclusively in the hospital cafeteria, both due to cost and time. Usually receive aid for domestic activities in the form of housekeepers.

The Residency pay is approximately 1/6 of the
amount these professionals would get if they were hired under the CLT system. As an alternative, the residents fit other jobs into their free time, which compromises the use of that time for leisure, relaxation, or study activities.

“When you add up the shifts from other places, the workload gets heavy, it is particularly physically demanding, but also because we would like some free time to see friends, to go home... But we have to afford to live in São Paulo; we need to work in other places too [...]” (P7).

Time for leisure and interpersonal relationships

There are difficulties in reconciling time between practical activities, study hours, leisure, domestic activities, interpersonal relationships, and other paid activities. In this stage, the intern’s schedule undergoes a restructuring, which is generally followed by complaints of chronic fatigue.

“ [...] Residency is about adapting to the lack of time. For most of the day you are in the hospital, so you have to adapt your schedule: decreasing gym time, sleeping later so you can spend some time with the boyfriend [...] you end up learning to accept and adapt” (P5).

Often, the time that was supposed to be rest time is sacrificed to allow some time for leisure, social obligations, or romantic relationships.

“It was a good month, but I had less interaction with the rest of my life, you know? [emergency internship]. I spent less time with my girlfriend, did less physical activity... it was one of the months when I saw my family the least ... A month of a lot of sacrifice in my personal life.” (P12).

Family planning/children

In order to maintain relationships, residents reported the need to adapt to their routine. In many cases, the relationship with other physicians facilitates the understanding of this dynamic. Seven of the interviewees were unmarried and without children. One of the residents was married and was awaiting the birth of a son who, according to him, had not been planned. It is striking the discourse of the four women saying the impossibility of having children due to the amount of study required for the specialization test and/or for the Residency.

“ [...] I do not see myself studying for a difficult test with a small child at home. I know it would not work out.” (P2, fem.).

There are reports of the only married resident, whose wife is also a resident in Pediatrics and was awaiting the birth of their son. This participant realized there was, in fact, no support or institutional strategy to deal and cope with pregnant medical residents.

Rest/sleep

The time available for rest is scarcer in emergency care and Intensive Care Units. In hospital wards and outpatient clinic internships, this time was reported as being more appropriate.

Sleep deprivation and fatigue have on tasks, and the tension experienced in the internship is often externalized in dreams and as sleep difficulties. There are several reports of the use of coffee and energy drinks as stimulants.

“ [...] there are many patients, and you are not able to see them properly, so I felt guilty. I would finish my shift and stay there dealing with things that I had not had time to do during the day. There were several nights when I left the emergency room at 11 pm. I sometimes got five hours of sleep, but I was stressed, worried. The stress of the internship affected the quality of my sleep for the worse [...] daytime naps were very frequent, which, in my opinion, are not very restful.” (P12).

DISCUSSION

Reconciling work and personal life is the result of adopting time management strategies. These allow residents to handle more appropriately with the long work hours. This frequently happens because the activity extends beyond the planned time due to intercurrences and ward visitations. The main characteristics and behaviors reported by residents are described in Figure 1.

Several studies have shown a high incidence of mental disorders in residents, usually associated with highly demanding work in the face of complex situations12-14, long work hours, lack of control over work processes, and patient consultations15. The mentoring program to residents works as a support for dealing with these demands.

Night work can lead to a worsened performance and increased risk of incidents, and it is also associated with various chronic diseases6. There were reports of worsened performance, including incidents that could compromise patient safety. In line with studies on sleep deprivation, the effects are mental psychological,
and physical exhaustion, with a decreased ability of reasoning, retention of information, problem-solving, including the interpretation of exams and errors in drug prescription\textsuperscript{16-18}.

A survey conducted in the United Kingdom\textsuperscript{19} with Anesthesiology residents showed that fatigue resulting from the program, even with reduced work hours (from 56 to 48 hours per week), interfered in the psychological well-being, physical health, and personal relationships; these interferences were maximized on the night shift.

Medical residents reported night shift difficulties, like falling and staying asleep, in addition to the perception of restless sleep and the desire to have more time off for other activities\textsuperscript{6,16,20}.

All participants were involved in other paid activities unrelated to the Residency. There are several factors that cause this: time management strategies that increase the cost of living (housing near the education institution, food in restaurants, hiring housekeepers), need for financial independence, and the current Residency pay.

Shift workers, especially those who work the night shift, have a different routine from the rest of the community, leading to greater difficulties with friends and family\textsuperscript{16,20,21}. This difficulty is described due to the number of hours and complexity of the internships, and it is worse in during times of night work.

Asaiag et al.\textsuperscript{22} stated that the residents perceived their quality of life is worse during the Residency than in other study times; the same was found in this study.

There are difficulties concerning the limited free time to maintain relationships with relatives and friends, reports of friendships and support among the residents, and difficulties in reconciling romantic relationships. It is worth noting that social support is important to prevent mental disorders\textsuperscript{23,24}.

The complexity and severity of the patients, the management of delicate work conditions, and the feeling of powerlessness when faced with the lack of resources were mentioned as factors of psychological burden. These are added to the physical overload due to the long working hours\textsuperscript{2,25}. These contraints were mainly observed in the emergency room and intensive care unit internships.

Despite being contradictory, the residents acknowledge these factors of psychological burden as necessary for their training. The emergency room internship presents high overhead, but it is associated with a time of great responsibilities, when the residents feel useful and rewarded.

**CONCLUSION**

Internal Medicine residents experience a period of intense learning that demands long hours of complex activities.

The strategies reported for time management
were: living near the hospital; hiring housekeepers to assist in domestic activities; eat most of the meals at the hospital cafeteria; postpone motherhood/paternity for after the Residency; use of the time available for leisure activities, family and romantic relationships, at the cost of rest time; social support focused on relationships with fellow residents and program supervisors.

The institutional strategies of social support, such as the mentoring program, were considered positive elements that facilitated the communication between residents and supervisors. There is an important to evaluate with the Residency supervisors their perception of the constraints mentioned by the study participants and the possible measures to reduce their impacts.

**Author Contributions**

Rafael A. T. Torres: participated in the study design, data collection, data analysis and writing the manuscript.

Frida M. Fischer: supervised the study, participated actively in the project design, discussion of the results, writing and revising the manuscript.

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