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Positive and Limiting Aspects in the Work of Health Professionals in Prison Units

By Lana Jocasta de Souza Brito, Laura Andrian Leal, Lucieli Dias Pedreschi Chaves, Cléria Bragança & Silvia Helena Henriques

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Keywords: *health professionals, prisons, worker's health.*

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Positive and Limiting Aspects in the Work of Health Professionals in Prison Units

Lana Jocasta de Souza Brito [α], Laura Andrian Leal [σ], Lucieli Dias Pedreschi Chaves [ρ], Cléria Bragança [ω] & Silvia Helena Henriques [¥]

Abstract- This study aims to analyze the positive and limiting aspects in the work of health professionals in federal prison units. This is a descriptive exploratory qualitative study. The information was collected through semi-structured interviews with professionals from federal prison units, between the months of June and October 2018. The positive aspects related to work found in the results were: salary recognition and job stability; good interpersonal relationships with colleagues in the workplace; low activity demand in prison units; flexible work hours; and provision of adequate physical and material resources. The limiting aspects are: lack of professional recognition and appreciation; divergence between work performed and professional activity; violence, fear and appearance of health problems at work. The study revealed that there is an urgent need to improve the working conditions of health professionals. Initiatives such as flexible work hours; continuing education strategies; measures to promote personal safety; and psychological support will allow the performance of the activities of these workers, and contribute to the work environment to become healthier and more motivating.

Keywords: health professionals, prisons, worker's health.

I. Introduction

Brazil is the fourth country in the world with the largest contingent of imprisoned people. It has about 607,731 prisoners, behind only the United States, China and Russia, respectively[1]. Statistically, the North American country is the world leader in incarceration, with nearly over 2.3 million prisoners[2]. Thus, in order to assist the health needs of this big population of prisoners in the various prison realities, there are support health teams within these penal institutions or close to them.

It is also known that in these scenarios the rate of appearance of illnesses is higher than in the reality outside the prison walls due to various conditions, such as: closed and unhealthy environments, overcrowding, presence of communicable diseases, people confined with various mental disorders, and chemical dependency, among others. These aspects call attention to the importance of the role of health professionals, because the people who interact in this space are more vulnerable to the transmission of diseases[3].

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In this sense, the greater demand and need for health services by this population is explained by this series of predisposing characteristics of reclusion. The context of socioeconomic, educational and cultural vulnerabilities to which most of these individuals in custody are subjected before imprisonment is also noteworthy[4]. In a survey of newly admitted prisoners in Italy, 67.5% entered the system with at least one chronic illness. The most frequent pathologies were of psychiatric (41.3%), digestive (14.5%) and infectious (11.5%) nature[5].

However, despite the high number of prisons and workers, there are still few studies on working conditions in prisons[6], especially with regard to the work of health teams in these places. When the researches approach health workers in prisons, they bring the reality of state establishments, not federal.

In this sense, the following question arises: What are the positive and limiting aspects in the work of health professionals carried out in federal prison units?

This study should provoke reflections in managers and professionals as to the identification of "gaps" in their work process, and also elucidate factors that can interfere with personal and professional growth in this environment, supporting practices and/or interventions appropriate to this context. Still, it is highlighted that rethinking the work process of these professionals within a specific context and identifying the gaps between their training and the requirements of the planned activities are relevant factors for their health, as well as for the society/population that benefits from their services.

Thus, the present research study aimed to identify the positive aspects pointed out by health workers in federal prisons, as well as the limiting and/or negative aspects perceived by them.

II. Methods

Descriptive exploratory study with a qualitative approach. The study scenarios were four federal maximum security prisons in Brazil. This choice is justified by the fact that at the time of collection only these four prisons were in full operation, with prisoners and workers, custody and assistance. Each unit had a capacity of 208 prisoners, with similar architectural configurations between the four units. These prisons

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have facilities where health care specialists (with higher education) and technicians work.

The study population was composed of specialized professionals (higher education level) and technicians (high school level with technical training). The first group consisted of physicians (at the time of preparing this project, no professional had assumed the position in this category, and there were two vacancies for the position in each unit), three pharmacists, 12 nurses, seven psychologists, seven dentists, four occupational therapists, and five social workers. The second group consisted of 15 nursing technicians and four dental assistants.

The inclusion criteria were: health workers of both sexes, who had worked in the system for more than six months (for the period of experience in the system), with a workload of 40 hours, either on duty (in the case of nurses and nursing technicians) or in usual working hours (other health workers).

The number of respondents was defined by the data saturation criterion[7], with the final sample consisting of 22 professionals. Data collection took place from June to October 2018 and was made through a semi-structured interview with a script containing closed questions for the characterization of participants and open questions regarding the positive and limiting aspects of the work.

The interviews lasted an average of thirty minutes, were held in a place chosen by the interviewees and outside the work environment. They were recorded and later transcribed by the researcher. In addition, in order to preserve anonymity, the participants were identified with the letter I for Interviewees, followed by the number of the interview.

Inductive content analysis was used to interpret the data in this study. To this end, the thematic analysis method was chosen and followed the steps: transcription and reading of the data; coding of interesting characteristics of the data in a systematic way throughout the data set; search for themes using grouping codes; review of topics where it was verified whether they responded to the coded statements; ongoing analysis to perfect the specificities of each theme; and final analysis of the selected excerpts related to the guiding questions of the research and the literature, producing an academic report of the analysis[8]. This study was approved by the Research Ethics Committee of the proposing institution (CAAE: 89987718.5.0000.5393). The research was developed in accordance with the Resolution of the National Health Council number 466/2012. All subjects in the study had their rights ensured by the signature of the Informed Consent Form.

III. Results and Discussion

The final sample consisted of 22 health workers who worked in Brazilian federal prisons, 16 (72%) female and 6 (28%) male. Most of the participating professionals (63.3%) were in the age group between 31 and 40 years, 4 (18.3%) belonged to the younger age group, between 25 and 30 years of age, while 4 (18.3%) were more than 40 years old. Regarding the professional category, 14 workers (63.6%) had higher education: 6 nurses, 3 dentists, 2 pharmacists; 1 occupational therapist, 1 social worker, and 1 psychologist. Eight (36.3%) are middle-level workers, 7 were nursing technicians and 1 was dental assistant.

Regarding time elapsed after graduation and work experience, 16 (72%) had graduated more than ten years ago and had already worked in other health institutions. Regarding the time in the prison, 11 (50%) of the workers had worked in the prison for less than five years.

Positive aspects in the work of health professionals

In the interpretative synthesis of the speeches, the following aspects emerged: salary; stability in the public service; interpersonal relationships in the context of work in the health sector; low activity demand; flexible working hours for nursing workers and adequate physical and material infrastructure.

Salary remuneration was identified as an incentive within the organization, as it was associated with a lower possibility of accumulating working hours aiming at a better salary gain, as shown in the speech:

> *A positive aspect is the salary; it is a salary above what my profession gets out there. I have several friends who work in two, three jobs, and they don't get what I get.* (I_6)

Job satisfaction is the result of several aspects related to the individual and the work environment. Lack of appreciation of work and low salary, for example, have been pointed out as some of the causes of dissatisfaction, which affect not only the professional's life, but also the health care provided[9]. Besides the issue of remuneration, stability in the public service is a positive factor for workers in the face of the uncertainty of the country's economic and rising levels of unemployment:

> *The positive aspects are I am a public servant, I have financial stability, independence. The fact that it was a public tender. The country is in crisis, so stability is very good*. (I_3)

In the last decades, instabilities and uncertainties in the field of private work have shown another object of increasing search on the part of workers: the guarantee of job stability through public tenders[10]. It can be said that the feeling of job stability, the perceived labor benefits and the compatibility between the salary and the activities performed are very

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relevant aspects for the accomplishment of the worker, even in a custody environment.

Still, the participants revealed as a positive aspect, the interpersonal relationship in the work context.

> *What gives me pleasure is the interaction with colleagues, who became friends. Also the fact that we are a multiprofessional team, I've learned a lot during this time, with the different careers and professions*. (I_6)

A good relationship between workers and companionship among the team members contribute to pleasure at work and minimization of conflicts, which when present, make the work exhausting and bring suffering. Companionship promotes an environment for the exchange of experiences and learning[11]. Another positive aspect reported was the demand for activities to be carried out during the working day, which does not seem to burden the workers:

> *The work itself, the technical work, is not so exhausting, you know... Compared to a hospital or basic health unit, we see far fewer patients here.*(I_{15})

> *At the health clinic I used to see many more patients, but here [prison] the demand for work and care is much lower than in the public service in general so I can do the procedures with calm, take my time* (I_{14})

It is known that the excessive demand for activities is an obstacle in health institutions, especially public ones, because it impairs the quality of the care provided, being a reason for stress for professionals, managers and patients, who do not find adequate circumstances of care, thus favoring conflicts between all the involved people[12]. In this sense, it is worth mentioning that the lower demand for care possibly occurs due to the restricted movement of prisoners in the units' facilities, since they are always taken by security agents and also because the federal prisons have a relatively small and controllable population.

> *I make the appointments, but for them to happen I depend on the availability of security agents to bring and accompany the prisoner in the health (...) and the population is small compared to the area of a family health program, there are 200 prisoners at most*(I_{15})

> *As it is a place of maximum security you depend a lot on security agents to make the service. You have to wait for him to bring the prisoner to you; you can't go there in the room to make the consultation*(I_{10})

Another positive point reported is the possibility of working 40 hours a week, either on a usual working day (8 hours daily) or on duty (24-hour shifts and 72 hours of rest)[13]. This facilitating aspect is viewed positively, as it allows for a more adequate balance between work and leisure activities:

> *On-call duty schedule is 24 hours of work for 72 hours of rest, so the schedule allows for a good time off*. (I_{15})

This possibility of working hours is provided for all positions within federal prison units, but in practice, only security officers (federal prison officers) and the nursing staff can choose to work on the base of on-duty shifts. The other specialists and technicians work on a daily basis and in direct contact with prisoners[14]. In the view of the management of the units, only nursing care is characterized as emergency and this justifies the need for night shifts. As for the assistance of other health professionals, in the organizational view, treatment can be elective.

The infrastructure of the prison units was also described as adequate:

> *The infrastructure of the unit is adequate, there is an airy, clean, and aesthetically good space, I have nothing to complain about, you know, compared to other types of services, it is very good*. (I_{20})

> *The unit is always clean, the spaces are large, the room has air conditioning, a pantry for employees with a refrigerator, microwave, sink, so it's very good, I think it's favorable*. (I_4)

When the company offers good working conditions, the level of satisfaction among workers is maximized, increasing productivity and work commitment[15]. Sufficient and quality material resources also contribute to higher yield and productivity. However, this characteristic of the prison environment is specific to the federal level; the same cannot be said about the reality of state environments which, many times, do not receive the same investment and physical/material input compared to those prisons administered by the Government.

Limiting aspects in the work of health professionals

Limiting aspects of the work were related to the lack of professional recognition and appreciation; divergence between work performed and professional activity; violence, fear and appearance of illnesses at work.

The lack of recognition was associated with a limiting aspect caused by the devaluation of the work by non-health professionals, by society and even by the assisted prison population:

> *I don't feel recognized for the work I do inside the prison, and this is very complicated because nobody recognizes you or knows what you really do* (I_4)

> *Recognition is only because you are a federal employee. So this recognition, when it comes, it is because we go through economic crises in the country and you are a federal employee earning a certain salary.*(I_6)

The process of valuing the worker partly materializes with the recognition of what is done at work.

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This recognition is not restricted to longing for work, but is materialized as a decisive aspect in the subjective, creative and intelligent mobilization at work[16]. Thus, it is clear that society recognizes health professionals working in prisons only because they are civil servants, individuals who took a contest, were approved in a selection with high competition and, finally, got a stable job before the unstable economic situation in which the Brazilian population is inserted.

Health professionals also feel devalued by co-workers who are from different areas of health:

> *Our work is very discriminated because society and security agents think that we are there to be friends with prisoners, they do not understand what we do in our service*. (I_{13})

It was noticed that the way of thinking shared by most people, that the prisoners do not "deserve" assistance or that the prison should be a place destined only for confinement, is also common among prison workers, especially among those responsible for custody and surveillance. These professionals are unaware of the importance of the health work as a way of consolidating the citizenship of the incarcerated population and are unable to appreciate the extent of the benefits of this work for all workers and for society.

Another important point is that the prisoners themselves are not aware of the care provided by health professionals, not recognizing the work of the team that assists them and this causes a feeling of devaluation in the worker.

> *On part of the prisoners, there is no recognition. You are a good professional only when you do what they want, when you give them the medicine they ask, but from the moment you say no and disagree with the diagnosis, they see you with bad eyes.* (I_{10})

Recognition is understood as the symbolic retribution to the workers for the judgment of their actions, being essential for the construction of professional identity, promoting health and pleasure in the work[17]. Thus, the assisted body is also unaware of health work. This is partly due to the difficulty of promoting health actions in their entirety in prison settings and partly due to the limited level of education of the prisoners themselves.

The professionals also reported that the health work performed inside prison units differs greatly from what was learned during graduation or from what is recommended in the legislation of each of the professional categories, which can be considered a limiting aspect of the work.

> *You are impaired by the environment, by security, by the system, which determines much of what you have to do, which is different from what is in the law. It differs a lot from what I learned in college*. (I_4)

Health care for incarcerated individuals faces difficulties in practice due to local specificities, the socioeconomic conditions of the units and of the community in which it operates, and problems such as tension and lack of human resources[18].

Security is another major factor in these environments. The entire structure reinforces the closed and surveilled institute. Prison officers end up exercising the role of regulating access to health. Sometimes, it is up to them to judge whether a request for assistance to the prisoner is necessary or not, or when it is safer to do it[3]. According to the report, it can be seen that health care is mediated by security, resulting in a lack of freedom and autonomy to carry out health care services.

> *We cannot plan and carry out any action, even if it is inherent to our profession, without depending on authorization from other people who are not related or have knowledge of health (in this case, prison officers).* (I_{17})

The lack of autonomy influences the quality of life of workers because it prevents them to exercise individual skills, affecting their commitment to work, satisfaction and, consequently, productivity[19]. In a study carried out in Ireland with nurses, autonomy at work was considered to be the most important indicator of job satisfaction[16]. In this sense, organizations with many hierarchical, bureaucratic authorities, without autonomy and lack of specific organizational goals, which are often more present in public sector organizations, can have a negative influence on professional satisfaction[20].

Another limiting factor that differs from the theoretical-practical content taught in college and that it is a phenomenon already present in health establishments and also in prisons is the lack of human resources, which also limits the work of these professionals:

> *The absence of a doctor is a great limitation for the role of the pharmacist and the nurse, because there are certain situations that require a doctor*. (I_4)
>
> *The insufficient number of nurses of the sector compared to technicians in the unit. That is why there is this error of shifts when there are only technicians, without the supervision of a nurse*. (I_{20})

Due to the circumstances previously reported, health professionals are practically obliged to carry out activities that go beyond their legal attributions. The speeches revealed a lack of workers from some professional categories, which ends up preventing the performance of some health activities recommended by law and taught in training centers.

The lack of physicians in federal prisons is in line with the reality of Brazilian public health services, which, in general, face difficulties because of lack of physicians resulting from the poor territorial distribution of these professionals and the absence of educational processes and trainers of physicians concerned with the strengthening of the public health system[21].

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Still, it is necessary to highlight that the characteristics of the environment and the assisted population can limit the working praxis, differing from what was learned in academic training and throughout professional experience.

> *The issue of the public we provide care. There, I can't be the professional I am outside, in terms of contact with the patient, being comfortable while providing care. I am constantly on watch, watching around, I am always attentive to my posture. This for me is a limiting factor in my professional performance*. (I_{10})

The prison system that we recognize by common sense and by the media is a failed structure that is unable to offer socio-structural conditions to make inmates return to live in society. Furthermore, the primordial character of security that causes many actions aimed at resocialization encounter obstacles to its effectiveness[22].

Ideologically, it is expected that the prison environment help people "recovering" in a context that is not conducive to this recovery, since there are several aspects that disadvantage human dignity and coexistence. Therefore, the occurrence of murders, rebellions, drug use, rape, and so forth is common in these places. Due to all these characteristics, the system is often recognized as a "school of crime", because some individuals enter there for small crimes and, within the prison, they come together, reorganize and strengthen criminality and criminal factions[23].

Due to these characteristics, the professionals feel fear and insecurity about having a more spontaneous relationship or creating bonds with the assisted person, because in the daily experience it is necessary to care for individuals and at the same time maintain a certain distance required by the context. So, caring for prisoners is marked by moral, ethical and social dilemmas that require the workers to give a new meaning to the place of work and the way of seeing the ones who live there. New responses to these work demands are imposed, which results in gaps between academic training and work experience[24].

In this sense, there is another limiting aspect that concerns violence and fear. Due to their insertion in a workplace that has characteristics that conduce to violent actions, health professionals feel very afraid within the prison environment, during care sessions with prisoners.

> *We have to take care with the physical approach to the patient, because we never know when we may suffer violence [...] we are constantly watching out so as not to leave any instrument within reach of the prisoner, all the time on alert*. (I_1)

The work performed in prison can also have an impact on the safety of health workers outside prison borders, also causing fear. Workers fear for their lives and that of their families:

> *Fear of being killed by the bandits or suffering an attack, torture, kidnapping... I am very afraid of being executed in front of my children, as it is very dangerous* (I_5)

In view of the above, fear, violence and insecurities of multi-causal origin in these work environments can cause adverse reactions in workers, generating illness resulting from the work itself.

> *We have had cases of suicides with a small group of servants in a short period of time... Three suicides in a span of five years... this is serious, and the majority of them were on leave due to psychological reasons.* (I_6)

After a long time exposed to professional activities in precarious, unhealthy or hazardous environments, the workers experience the incongruity between their work capacity and the high psychological demand for work, generating mental overload that worsens their mental health conditions. This happens in the prison system, which, because of its organizational and structural specificities, tends to generate suffering and illness among professionals[25].

In this perspective, some measures, such as psychological monitoring, were suggested by workers. They reported how the agency should act in the case of occupational illness:

> *I think that there should be a post-trauma health monitoring with the workers, to take care of this issue and not to leave it to people to take care of it as an individual thing, it would be important*. (I_6)

In critical environments, the professionals need to strengthen their mental protection mechanisms. Many of them resort to therapies and psychological treatment[11]. Thus, the diseases are the responsibility of the management of these prisons too, since the illnesses that affect the health worker in federal prisons are directly linked to institutional issues arising from the activities performed in these places.

In this environment of limiting aspects, health workers also mentioned the adoption strategies to protect themselves physically and psychologically. The individual strategies adopted were alertness and social isolation.

> *For example, when I leave the prison, I come home, this condominium we live in has everything, gym, swimming pool [...] we chose it because I don't have the courage to go out in the city.* (I_{13})
>
> *I'm paranoid. When I leave the house in the car I keep looking in the rearview mirror several times to see if I am being followed, because I am afraid every time I leave.* (I_5)

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This behavior, of constant alertness and expectation of the worst, frequently generates anxiety and psychic exhaustion. Work within a prison requires this sensory sharpening that can cause physical illness, stress and burnout, for example[26]. According to the reports, this is a behavior that is required even outside the workplace. Professionals also become socially isolated. Involvement with other people and other environments promotes physical and mental health for people. Such interactions may be useful to mitigate depressive conditions and inhibit harmful or self-destructive behaviors such as suicide, as it acts as a protective mechanism for social control and emotional support[27]. Therefore, social contact is very important for any individual.

Other strategies, not personal, but of an institutional nature, mentioned by the interviewees are the flexibility of working hours for all health professionals, not only nurses, as currently occurs.

> *We have been asking for this flexibility for a long time and they do not authorize it, and it upsets us a lot, but they don't change. We go to work every day at the same time, this is terrible for me and it exposes me a lot, because I live in a very small city, we are super stressed going back and forth at the same times. We have to go every day, being easy prey for bandits outside the prison to follow and monitor our routine.* (I_{13})

The respondents believed that on-call work makes their schedules less predictable than daily work, making their routines more unpredictable for bandits outside linked to factions inside the the prison.

It is important to consider that, in health work carried out in prisons, the personal safety of the team that provides care to prisoners should be considered when working conditions are discussed. It is necessary to invest in the safety of these workers, because the constant experience in an unstable and insecure work environment overloads individuals and causes several illnesses[19].

This study has as a limitation the fact that it was carried out only in federal prison units and with health workers. It is suggested that further studies be developed including other workers and the managers of these institutions, in addition to expanding the investigation to state prisons.

IV. Final Considerations

The discussion about the positive and limiting aspects of health work in Brazilian federal prisons made it possible to listen to these professionals and to identify the limitations and possibilities to improve their work in these places. It became evident that relations with peers, stability and salary contribute positively, being considered stimulating factors for the professionals. The lack of professional recognition and appreciation, the divergence between the work performed and the professional activity, the violence, fear and illness at work were aspects expressed as aggravating factors that hindered the work in the service.

In this sense, it is essential that managers offer workshops regularly among health workers and prison security personnel to demystify and sensitize custody workers about health care actions, and also provide spaces for talking and listening between managers and workers. Investment in human resources and teamwork is necessary to minimize situations of conflicts and illnesses resulting from violence such as moral harassment, sexist behavior and the depreciation of the female figure.

Adequate size of the health personnel is essential to avoid extrapolation of the limits of the exercise of each profession when they have to overcome the gaps in human resources within the team. Some other possibilities presented by the interviewees were the need to expand the flexibility of schedules for all professional categories, in addition to professional psychological support.

The promotion of a positive work environment results in a greater possibility of well-being and mental health for professionals, which in turn promotes job satisfaction and better assistance to the imprisoned population.

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Psychometric Properties of DASS-21and Predictive Model of Negative Affectivities in Individuals with Different Pain Conditions

By Juliana Alvares Duarte Bonini Campos, Fernanda Salloume Sampaio Bonafé, Bianca Gonzalez Martins, Lucas Arrais Campos & João Maroco

Abstract- The aims of this cross-sectional study were i) to evaluate the psychometric properties of the Depression Anxiety and Stress Scale (DASS-21) in adults with different temporal conditions of pain; ii) to compare the Depression, Anxiety and Stress subscale scores in different individuals; iii) to estimate the prevalence of negative affectivity; and iv) to elaborate a predictive model considering aspects related to the development of negative affectivity. A total of 1,150 individuals (mean age: 38.6, SD = 10.8 years; 78.9% women) participated. The fit of the model of DASS-21 to the data was estimated by confirmatory strategy. The Depression, Anxiety and Stress mean scores of participants with different temporal conditions of pain were compared. The association between Depression, Anxiety and Stress and the presence or absence of pain was assessed by the chi-square test and odds ratio (OR). A multiple logistic regression model was developed to estimate the probability of negative affectivity in the sample.

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Psychometric Properties of DASS-21and Predictive Model of Negative Affectivities in Individuals with Different Pain Conditions

Negative Affectivity in Pain

Juliana Alvares Duarte Bonini Campos [α], Fernanda Salloume Sampaio Bonafé [σ], Bianca Gonzalez Martins [ρ], Lucas Arrais Campos [ω] & João Maroco[¥]

Abstract- The aims of this cross-sectional study were i) to evaluate the psychometric properties of the Depression Anxiety and Stress Scale (DASS-21) in adults with different temporal conditions of pain; ii) to compare the Depression, Anxiety and Stress subscale scores in different individuals; iii) to estimate the prevalence of negative affectivity; and iv) to elaborate a predictive model considering aspects related to the development of negative affectivity. A total of 1,150 individuals (mean age: 38.6, SD = 10.8 years; 78.9% women) participated. The fit of the model of DASS-21 to the data was estimated by confirmatory strategy. The Depression, Anxiety and Stress mean scores of participants with different temporal conditions of pain were compared. The association between Depression, Anxiety and Stress and the presence or absence of pain was assessed by the chi-square test and odds ratio (OR). A multiple logistic regression model was developed to estimate the probability of negative affectivity in the sample. The model of DASS-21 presented adequate fit to the data (X^2/df = 6.24; CFI = 0.98; TLI = 0.98; RMSEA = 0.067). Convergent validity (AVE = 0.57-0.74) and reliability (α and CR = 0.90-0.95) were also adequate. The mean scores of negative affectivity were higher among individuals with pain regardless of pain type (F_{Welch} = 14.92-19.11; p<0.001). Having pain increased the risk of negative affectivity (OR = 2.43-2.90). Having religion was a protective factor for the occurrence of Depression (OR = 0.57) and Anxiety (OR=0.60). The presence of chronic disease, pain, insomnia, and high economic level were risk factors for Depression (OR = 1.50-2.46) and Anxiety (OR = 1.71-3.95). For the occurrence of Stress, only the presence of pain and insomnia were significant risk factors (OR = 1.96-2.70). In conclusion, individual characteristics and pain are relevant factors for experiencing negative affectivity and should be considered in studies and clinical management.

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I. Introduction

Negative affectivity is a tendency of a person to experience negative emotions [1], which may manifest as a state or trait, i.e., be temporary with varying intensities over time or a personal disposition. This is a complex construct that includes negative emotions such as, for example, stress, anxiety, and depression. Research on stress, anxiety, and depression has received significant attention because of the increased prevalence of these conditions and their impact on people's lives.

Although some overlap exist, stress, anxiety, and depression are distinct conditions. According to Lovibond and Lovibond [2], stress is defined as a persistent state of over-excitement that reflects as a constant difficulty in meeting and coping with everyday difficulties and challenges. Anxiety involves the anticipation of negative events that normally, but not exclusively, are of a psychological nature. Still, anxiety is an adaptive state or a psychological disorder and what determines the difference between these occurrences is the severity of this condition and the duration of this state [3]. Depression, in turn, is a psychopathology with complex etiology that involves several symptoms such as feelings of distress, hopelessness, devaluation of life, self-deprecation, disinterest, reduced motivation, and inertia. Stress and anxiety can have positive valence when they occur as an adaptive/physiological reaction or negative valence when they trigger psychological disorders as a result of ineffective coping strategies [4,5].

The measurement of stress, anxiety, and depression is a challenge for which several instruments have been proposed. The Depression, Anxiety and Stress Scale (DASS) is an interesting screening tool because it simultaneously evaluates the three negative affectivity conditions and can be used in both clinical and research contexts [2]. The theoretical construction of this instrument was based on the tripartite model of anxiety and depression proposed by Clark and Watson [6], which seeks the maximum differentiation between

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the two conditions by separating specific characteristics and grouping shared symptoms. The Tripartite Model of Anxiety and Depression helps explain the comorbidity between anxious and depressive symptoms and disorders. This model divides the symptoms of anxiety and depression which helps explain common and distinct aspects of depression and anxiety. The tripartite model consists of general distress, physiological hyperarousal (specific anxiety), and anhedonia (specific depression), and a model with diagnosis of mixed anxiety-depression was proposed. The DASS allows the assessment of anxiety and depression prevalence and the risk of their occurrence. Thus, it can be used to identify these conditions in a population as well as develop preventive and curative measures.

Events and characteristics associated with negative affectivity include pain and chronic illness, insomnia, and individual characteristics (such as sex, age, religion / spirituality, work activity and economic level). Pain is a stressful condition that can trigger a cascade of psychophysiological processes and elicit emotional reactions. Pain-related anxiety and depression have often been reported in patients with chronic pain and may contribute to negative outcomes of pain conditions such as overestimation of pain intensity, lower chance of symptom regression, greater functional impairment in physical and social aspects [7-9]. Likewise, individuals with chronic diseases may also present concomitant depression and anxiety, since chronic diseases may limit the person's actions and engagement in gratifying activities [10], favoring his or her isolation [11]. However, the evaluation of negative affectivities in individuals without chronic pain condition is still scarce. Thus, studies that investigate the influence of different pain conditions on these affectivities may be relevant for clinical management.

With regard to insomnia, this can be defined as difficulty in initiating or maintaining sleep [12]. Studies report evidence of a bidirectional relationship between insomnia and anxiety and depression, i.e., insomnia may be the cause or consequence of these emotional states [12, 13]. Thus, the evaluation of insomnia in the context of depression and anxiety is important, since it can negatively influence a person's life; insomnia could be used as a marker for anxiety and depression [12].

Regarding demographic characteristics, the literature has pointed out that different characteristics influence the occurrence of negative affectivities. However, some seem to be more commonly addressed as gender, religion and economic level of individuals. Sex has a significant impact in depression, anxiety, and stress, with women having, in general, higher scores than men [14, 15]. According to Iqbal et al. [14], this is due in part to women expressing their emotions more easily than men. For some authors [16-18] this fact refers to the socio-cultural repertoire that influences the interpretation of the perception of emotional representations that are often supported by sexual stereotypes where men are attributed strength and endurance and women emotion and affection. Thus, Fernández and Vergara [19] emphasize that the greatest expression of women's emotional experience is related to socio-cultural and interpersonal behaviors that, in turn, reinforce the ideologies and justifications for existence of different behaviors manifested by men and women.

In addition, studies have reported an inverse relationship between age and negative affectivity, with younger individuals experiencing more negative emotions, which decline with advancing age [20, 21]. Although older people are more prone to present compromised health and persistent pain conditions, according to Wood et al. [22], their lower negative affectivity may be related to less exposure to work-related stressors and dealing with pain differently from younger individuals, generally accepting painful conditions as a part of the aging process. Another aspect is that younger people usually have a smaller set of coping strategies than older people [23].

The reported association between religion/spirituality and negative affectivity [24-26] is based on religious people having positive coping strategies for difficult experiences, as they undergo psychological adaptations more easily, increasing their resilience and reducing feelings of depression, anxiety, and stress. Thus, religion can act as a protective factor for negative affectivity [26].

The role of social factors, such as work activity and economic level, in negative affectivities have also been highlighted [22, 27-29]. Work activities have been seen as a dual factor [28]: positive, for being the source of subsistence, and negative, for often being a source of stress that can affect mental health [22]. These approaches reflect the psychosocial conception of work, in which affectivity, the social role of work, and the physical aspects of the activity are considered together [28]. The difficulty in dealing emotionally with work-related stressors may favor negative feelings and trigger disabling illnesses, including mental health problems. In addition, some studies indicate an inverse association between the economic level and depression and stress [29-31]. According to Adler et al. [29], a high purchasing power reduces the risk of facing economic problems, which can reduce the risk of negative affectivity.

Thus, studies that seek to identify aspects related to stress, anxiety, and depression in samples with different characteristics (e.g. different pain conditions) are relevant for providing evidence that can be accounted for and incorporated into clinical practice. These studies may lead to a more integrated, individualized, and decisive evaluation of emotional conditions, preventing or maintaining patients' mental health.

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This study was carried out with the objective of i) evaluating the psychometric properties of the Depression, Anxiety and Stress Scale (DASS-21) in adults with different pain types (no pain, acute pain, chronic recurring pain, and chronic continuous pain), ii) comparing the scores of depression, anxiety, and stress among groups, iii) estimating the prevalence of negative affectivity, and iv) elaborating a predictive model taking into account aspects relevant to the occurrence of depression, anxiety, and stress in the sample.

II. Methods

a) Study design and sampling

The study presented a cross-sectional design with a non-probabilistic sampling (for convenience). Adults (age ≥18) seeking dental care at clinics (Radiology, Periodontics, Restorative Dentistry, Emergency, Endodontics, Prosthetics, Temporomandibular Dysfunction, Oral Medicine, and Surgery) of the School of Dentistry of Araraquara, from 2015 to 2016, were invited to participate. The establishment of the target population (dental patients) was based on the fact that it was composed of individuals with different painful conditions and without pain, which was necessary to compose the subsamples of the present study. The option of working with dental patients was based on the researchers' access to the clinics of the School of Dentistry of Araraquara. Only individuals aged 18 or over and who agreed to participating in the study were included; individuals who sought care at the special patients' clinics were excluded.

The minimum sample size was estimated using the proposal by Kim [32], which considers the degrees of freedom of the model (df), the significance level (α) and the power analysis. Considering that DASS-21 presents df =186 and using α = 5% and power = 80%, the minimum sample size estimated was 116 subjects. To calculate the sample size, we used the software IBM SPSS Statistics 22 (IBM Corp., Armonk, N.Y., USA).

Because the study establishes a sample of individuals with four different pain conditions (no pain, acute pain, chronic recurring pain, and chronic continuous pain), the minimum sample size was considered for each one of these groups.

b) Measuring instrument

Participants were classified into groups according to the pain condition. It should be clarified that, although the participants were dental patients, pain investigation was performed considering any painful event not limited to dental issues (dental pain = 37.4%; headache = 16.7%; orofacial musculoskeletal = 1.6%; bodily musculoskeletal = 37.2%; bodily other pain = 7.1%). For this, the proposal from the International Association for the Study of Pain (IASP) was considered [33, 34]. Individuals were first asked about the presence or lack of pain in the last 24 hours. Those who reported no pain in the prior 24 hours were included in the "no pain" group. Individuals who reported pain were also asked regarding the time of pain onset. If the pain onset occurred less than 3 months ago, the individual was included in the "acute pain" group. If the individuals reported pain onset equal to or greater than 3 months, they were asked about the temporal pattern of pain (crises/episodes or continuous). Those who reported recurrent pain were included in the "chronic recurring pain" group and those who reported continuous pain were included in the "chronic continuous pain" group. Demographic characteristics were collected using a questionnaire.

Negative affectivity was measured with the DASS-21. The DASS-21, proposed by Lovibond and Lovibond [2], has a three-factor structure (items: Depression: 3, 5, 10, 13, 16, 17, 21; Anxiety: 2, 4, 7, 9, 15, 19, 20; Stress: 1, 6, 8, 11, 12, 14, 18) and items responses in a 4-point Likert scale ranging from 0 to 3. Also, the fit to the sample of a second order-hierarchical model (SOHM) with the "negative affectivity" factor was tested to broaden the possibilities of using the instrument to track negative affectivities as suggested by Lovibond and Lovibond [2]. Currently, there are three Portuguese versions of the DASS-21, two for Portugal [35, 36] and one for Brazil [37]. Thus, before using the instrument, a single Portuguese version was developed following the spelling agreement established among the Portuguese-speaking countries in 2009 so that the instrument could be more widely used. After obtaining a consensus among the authors of the study, the new version was back translated to the original English version and the equivalence between the versions was verified. A team of Psychology and Psychometrics specialists (2 Brazilians and 2 Portuguese) individually and independently evaluated and confirmed the semantic, idiomatic, cultural and conceptual equivalence of the new version with the original version. The new version was compatible with Vignola and Tucci proposal [37], with minor changes (S1 Table).

c) Sample characterization

A total of 1,167 individuals agreed to participate in the study. Of these, 1,150 answered all DASS-21 items (no pain: n = 336, acute pain: n = 389, chronic recurring pain: n = 247, and chronic continuous pain: n = 178). It should be clarified that the 17 subjects who did not answer the scale completely only did not fill 1 item. In order to fit the models to the sample, only the fully answered instruments were used, but for the other analyzes the missing data were imputed by the regression method using SPSS 22.0 (SPSS An IBM Company, Chicago, IL).

The mean age of participants (n = 1,167) was 38.6 (SD = 10.8) years. The majority of the participants were women (n = 921, 78.9%), reported working (n =

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910, 78.0%), reported having a religion (n = 990, 84.8%), and had low economic level (n = 736, 63.1%; average monthly income below R$ 2,400.00 ~ USD 645.00 – the values were estimated from the quotation of 02/08/2019 of the Central Bank of Brazil - US$ 1.00 = R$ 3.72). Still, 438 individuals reported having chronic disease (37.5%) and 324 reported having insomnia (27.8%). Table 1 presents characterization of the total sample and according to the groups. It is important to clarify that in order to identify the presence / absence of chronic disease and insomnia, the individuals were asked whether this condition existed or not, so that these variables were self-reported.

Table 1: Sample characterization

	Sample				
	Total	No pain	Acute pain	Chronic recurring pain	Chronic continuous pain
n	1,167	342	390	253	182
Mean age (± SD)	38.6 ± 10.8	38.1 ± 10.8	36.6 ± 9.9	38.1 ± 11.1	44.8 ± 10.2
Female (%)	78.9	74.9	72.8	87.4	87.9
Worker (%)	78.0	75.1	79.7	78.3	79.1
Having Religion (%)	87.0	86.8	85.6	85.8	92.3
Low economic level (%)	63.1	56.8	66.1	62.9	68.7
Presence of Chronic disease (%)	38.8	31.9	31.2	44.8	59.8
Having insomnia (%)	27.8	18.1	25.4	32.4	44.5

III. Psychometric Properties Analysis

a) Construct validity

The construct validity of DASS-21model to the data was assessed using the factorial and convergent validities [38, 39]. The factorial validity was estimated using a confirmatory strategy (Confirmatory Factor Analysis - CFA) to verify the fit of the theoretical structure to the data. For this, both the first-order three-factor model and the second-order hierarchical model (SOHM) were tested (Fig 1). The Weighted Least Squares Mean and Variance Adjusted (WLSMV) estimation method was applied. The choice of this estimator was related to the fact that it is the most appropriate for categorical data [40]. The goodness-of-fit indices used were the ratio of chi-square to degrees of freedom (χ^2/df), the comparative fit index (CFI), Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA). The factor loadings of the items (λ) were also considered. The fit of the model was considered adequate when λ≥0.50, χ^2/df≤2.00, CFI and TLI≥0.90, and RMSEA<0.10 [39, 41].

The invariance between the samples was estimated by multigroup analysis. The CFI difference (ΔCFI) was used for factor loadings (λ) and thresholds (t). Invariance was assumed when absolute value of ΔCFI was less than 0.01 [42].

The analyses were conducted using the MPLUS software (version 7.2, Muthén & Muthén, Los Angeles, USA).

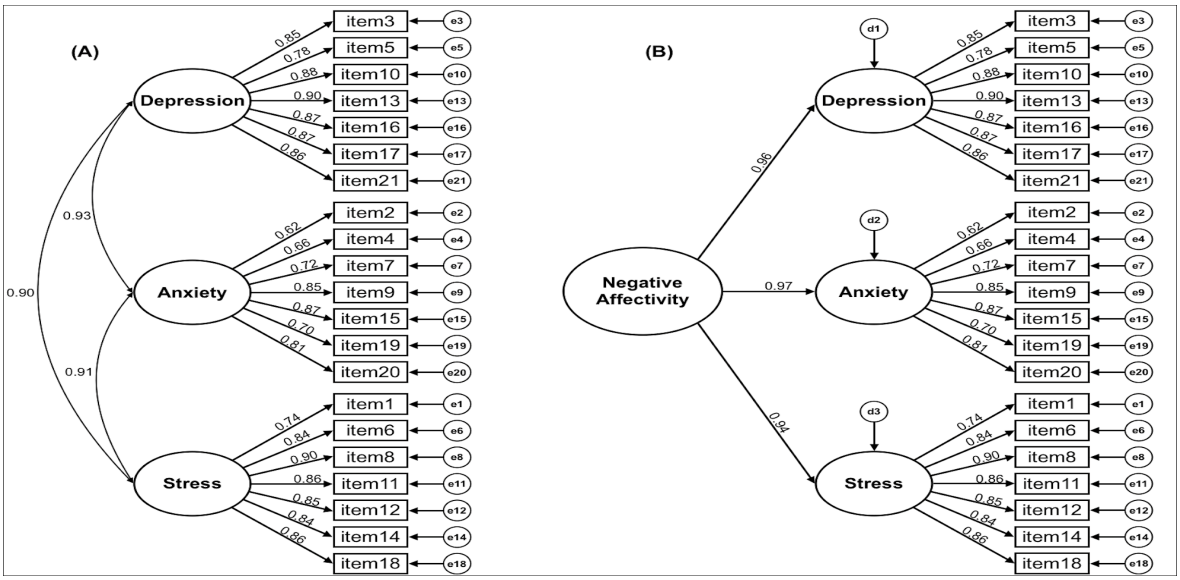

Fig 1: First-order three-factor model (A) and second-order hierarchical model (B) of the Depression, Anxiety and Stress Scale (DASS-21) and standardized estimates of the factor loadings and hypothetically causal trajectories of the models fitted to the total

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The convergent validity of each factor was estimated from the Average Variance Extracted (AVE) [39, 43]. Value of AVE ≥0.50 was considered adequate [43].

IV. Reliability

The reliability was estimated using the composite reliability (CR) and the ordinal alpha coefficient (α) [39]. Values of CR and α≥0.70 were considered adequate [39].

a) Comparison of Depression, Anxiety and Stress scores between groups

After evaluating the psychometric properties of the DASS-21 for different samples (total sample and groups), the mean scores of Depression, Anxiety and Stress were compared between the individuals with different temporal conditions of pain (no pain, acute pain, chronic recurring pain, and chronic continuous pain). The assumptions of normality (Skewness: 0.84-1.98, Kurtosis: 0.04-5.01; reference values: Sk<3 e Ku<7 [39]) and homoscedasticity were tested and the data were considered heteroscedastic (Levene's test: 3.473-11.588; p<0.001) and therefore, the variances are unequal. Thus, Welch's ANOVA was used to compare the scores between the groups. Multiple comparisons were made using the Games-Howell post-hoc test. The significance level was 5%. The statistical analyses were performed in the IBM SPSS Statistics 22 (IBM Corp., Armonk, N.Y., USA).

b) Prevalence of Negative Affectivity

The distribution of individuals according to the negative affectivities (Depression, Anxiety and Stress) considering the classification of severity (normal, mild, moderate, severe and extremely severe) recommended by Lovibond and Lovibond [2] was presented. The prevalence of negative affectivity was calculated per point (p) and by 95% confidence interval (95% CI). The association between Depression, Anxiety and Stress and the presence/absence of pain was estimated using the chi-square test. The odds ratio (OR) was calculated to verify the chance of an individual with pain presenting Depression, Anxiety, Stress in relation individuals without pain. Therefore, negative affectivities were dichotomized considering their presence when severity was classified as mild, moderate, severe or extremely severe (classification recommended by Lovibond and Lovibond [2]). The distribution of the individuals according to the presence of the different negative affectivity components (Depression, Anxiety and Stress) considering the number of these components present for each group was also calculated. The statistical analyses were performed in the IBM SPSS Statistics 22 (IBM Corp., Armonk, N.Y., USA).

c) Predictive Model

A multiple binary logistic regression model was elaborated to estimate the probability of occurrence of Depression, Anxiety, Stress and Negative Affectivity in the total sample excluding participants with missing data in the demographic questionnaire (n = 1,082) and according to the variables of interest (reference class: female, worker, having religion, high economic level, presence of chronic disease, presence of pain in the last 24 hours, having insomnia). The backward stepwise was used to elaborate the model. The statistical analyses were performed in the IBM SPSS Statistics 22 (IBM Corp., Armonk, N.Y., USA).

d) Procedures and Ethical Aspects

Individuals agreed and signed the informed consent form to participate in the study. A face-to-face interview was conducted by a single interviewer. The interviews were carried out in a reserved space in the waiting room of the participating clinics.

The study was approved by the Research Ethics Committee of the São Paulo State University (Unesp), School of Dentistry, Araraquara (CAAE Registry No.: 14986014.0000.5416).

We clarify that the design and presentation of the results of this study followed the guideline for reporting observational studies – STROBE (www.equator-network.org).

V. Results

a) Psychometric properties analysis

Table 2 shows the indicators of fit of the Depression, Anxiety and Stress Scale model (DASS-21) to the data of a sample of adult individuals without pain and with different temporal conditions of pain.

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Table 2: Indicators for evaluating the psychometric properties of the Depression, Anxiety and Stress Scale model (DASS-21) to the data of a sample of adult individuals without pain and with different temporal conditions of pain

		ConfirmatoryFactorAnalysis*								
Sample	n	λ	s^2(D/A/S)	X^2/df	CFI	TLI	RMSEA[CI90%]	r	AVE	α	CR
Total	1,150	0.62-0.90	0.72/0.38/0.55	6.24	0.98	0.98	0.067[0.064-0.071]	0.90-0.93	0.57-0.74	0.90-0.95	0.90-0.95
No pain	336	0.59-0.90	0.81/0.34/0.63	2.13	0.98	0.98	0.058[0.050-0.066]	0.91-0.93	0.57-0.73	0.89-0.95	0.90-0.95
Acutepain	389	0.64-0.91	0.65/0.41/0.53	2.82	0.97	0.97	0.068[0.061-0.075]	0.88-0.90	0.58-0.73	0.90-0.94	0.90-0.95
Chronicpain (recurring + continuous)	425	0.58-0.92	0.72/0.34/0.50	3.82	0.97	0.97	0.081[0.075-0.088]	0.89-0.93	0.54-0.74	0.89-0.95	0.89-0.95
Chronicrecurringpain	247	0.64-0.90	0.77/0.42/0.50	2.68	0.97	0.97	0.083[0.074-0.091]	0.90-0.94	0.55-0.76	0.89-0.95	0.89-0.96
Chroniccontinuouspain	178	0.56-0.94	0.68/0.31/0.52	2.31	0.97	0.96	0.086[0.075-0.097]	0.85-0.91	0.57-0.76	0.89-0.95	0.90-0.96
SOHM#		**β**									
Total	1,150	0.94-0.97	0.66	6.24	0.98	0.98	0.067[0.064-0.071]	-	0.57-0.74	0.90-0.95	0.90-0.95
No pain	336	0.95-0.98	0.74	2.13	0.98	0.98	0.058[0.050-0.066]	-	0.57-0.73	0.89-0.95	0.90-0.95
Acutepain	389	0.94-0.95	0.58	2.82	0.97	0.97	0.068[0.061-0.075]	-	0.58-0.73	0.90-0.94	0.90-0.95
Chronicpain (recurring + continuous)	425	0.93-0.97	0.66	3.82	0.97	0.97	0.081[0.075-0.088]	-	0.54-0.74	0.89-0.95	0.89-0.95
Chronicrecurringpain	247	0.94-0.98	0.74	2.68	0.97	0.97	0.083[0.074-0.091]	-	0.55-0.76	0.89-0.95	0.89-0.96
Chroniccontinuouspain	178	0.92-0.98	0.58	2.31	0.97	0.96	0.086[0.075-0.097]	-	0.57-0.76	0.89-0.95	0.90-0.96

*λ:standardized factor loadings; β: standardized estimative SOHM; s^2(D/A/S): explained variance of the factors Depression (D), Anxiety (A) and Stress (S); X^2/df: ratio of chi-square to degrees of freedom; CFI: comparative fit index; TLI: Tucker-Lewis index, RMSEA: root mean square error of approximation; CI: confidence interval; r: correlation between factors;AVE: average variance extracted; α: ordinal alpha coefficient; CR: composite reliability.

#SOHM: second-order hierarchical model.

The first- and second-order models of DASS-21 presented good fit to the data pointing to adequate factorial validity in all samples. It was also observed that the convergent validity and reliability of the DASS factors were adequate. Still, a high explained variance of the Depression and Stress factors of the scale is observed.

b) Comparison of Depression, Anxiety and Stress scores between groups

Table 3 presents the comparison of the mean scores of Depression, Anxiety and Stress of the participants with different temporal conditions of pain. Higher mean scores of Depression (F_{Welch}=19.11;

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p<0.001), Anxiety (F_{Welch}=15.72; p<0.001) and Stress (F_{Welch}=14.92; p<0.001) were observed among individuals with pain regardless of the characteristic of the painful condition. For this reason, the individuals were reclassified into two groups ("no pain" and "with pain") to conduct the following analyzes.

Table 3: Comparison of the scores (mean ± standard deviation) of Depression, Anxiety and Stress among adult individuals without pain and with different temporal conditions of pain.

	Mean score ± standard deviation			
Sample	Depression*	Anxiety*	Stress*	n
No pain	2.89 ± 3.71[a]	2.67 ± 3.30[a]	5.13 ± 4.49[a]	342
Acute pain	4.49 ± 5.03[b]	3.83 ± 4.36[b]	6.76 ± 5.18[b]	390
Chronic recurring pain	4.98 ± 5.32[b]	4.40 ± 4.37[b]	7.52 ± 5.43[b]	253
Chronic continuous pain	5.53 ± 5.39[b]	4.74 ± 4.68[b]	7.33 ± 5.56[b]	182
Total	4.29 ± 4.90	3.75 ± 4.20	6.54 ± 5.19	1,167

*Welch's ANOVA (p<0.001); [a,b]different letters indicate significant statistical difference (Games-Howell post hoc test; α = 5%).

c) Prevalence of negative affectivity

Table 4 shows the distribution of individuals according to the negative affectivity (Depression, Anxiety and Stress) considering the classification of severity. It is noted that the presence of pain significantly increases the chance of an individual having negative affectivities.

Table 4: Distribution of individuals [n (%)] according to negative affectivity (Depression, Anxiety and Stress) considering the classification of severity in the samples (no pain: n = 342, with pain: n = 825, total sample: n = 1,167).

Factor		Classification – n (%)							
DASS-21	Sample	Normal	Mild	Moderate	Severe	Extremely Severe	p [CI95%]	χ^2	OR [CI95%]*
Depression	No pain	322 (94.2)	11 (3.2)	8 (2.3)	1 (0.3)	-	5.85 [3.36-8.34]		
	With pain	699 (84.7)	54 (6.5)	50 (6.1)	22 (2.7)	-	15.27 [12.82-17.73]	18.77#	2.90 [1.78-4.74]
	Total	1,021 (87.5)	65 (5.6)	58 (5.0)	23 (1.9)	-	12.51 [10.61-14.41]		
Anxiety	No pain	315 (92.1)	10 (2.9)	14 (4.1)	2 (0.6)	1 (0.3)	7.89 [5.03-10.76]		
	With pain	674 (81.7)	53 (6.4)	65 (7.9)	24 (2.9)	9 (1.1)	18.30 [15.66-20.94]	19.47#	2.61 [1.70-4.02]
	Total	989 (84.7)	63 (5.4)	79 (6.8)	26 (2.2)	10 (0.9)	14.52 [12.50-16.54]		
Stress	No pain	324 (94.7)	13 (3.8)	5 (1.5)	-	-	5.26 [2.89-7.63]		
	With pain	727 (88.1)	51 (6.2)	47 (5.7)	-	-	11.88 [9.67-14.09]	11.09#	2.43 [1.44-4.08]
	Total	1,051 (90.1)	64 (5.5)	52 (4.5)	-	-	9.86 [8.15-11.57]		

#p<0.001; * calculated from the dichotomization of variables (sample = no pain x with pain, and DASS-21 Factor: Normal x Affected), OR: calculated to evaluate the chance of an individual with pain to present Depression, Anxiety, Stress in relation to the individual without pain

Fig 2 shows the distribution of the participants who had at least one negative affectivity component [Depression (D), Anxiety (A) and Stress (S)] considering the number of these components present.

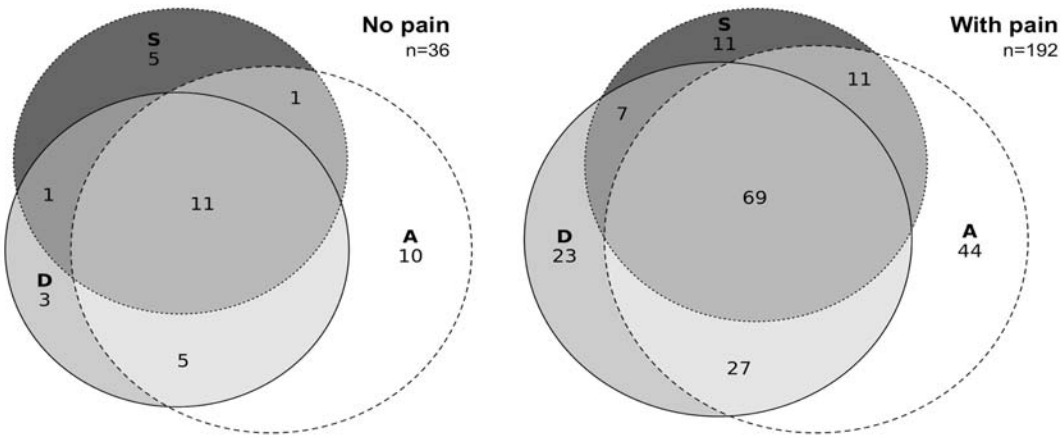

Fig. 2: Distribution of the individuals who had at least one negative affectivity component [Depression (D), Anxiety (A) and Stress (S)] considering the number of these components present in the individuals without and with pain.

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Table 5: Multiple logistic regression model elaborated to estimate the probability of occurrence of Depression, Anxiety, Stress and Negative Affectivity (presence of 1 or more components - Depression, Anxiety, Stress) in the total sample (n = 1,082).

Dependent Variable	Independent Variable	Complete Model					RefinedModel#				
		β	SE*	χ^2	p	OR [CI95%]	β	SE*	χ^2	p	OR [CI95%]
Depression	Intercept	-2.742	0.494	30.802	<0.001	-	-3.172	0.362	76.809	<0.001	-
	Sex	-0.403	0.281	2.047	0.153	0.669 [0.385-1.161]	-	-	-	-	-
	Age	0.000	0.009	0.000	0.994	1.000 [0.982-1.018]	-	-	-	-	-
	Work	-0.373	0.213	3.077	0.079	0.689 [0.454-1.045]	-	-	-	-	-
	Religion	-0.558	0.267	4.359	0.037	0.573 [0.339-0.966]	-0.521	0.261	4.002	0.045	0.594 [0.356-0.990]
	Chronicillness	0.408	0.200	4.151	0.042	1.503 [1.016-2.225]	0.457	0.193	5.630	0.018	1.580 [1.083-2.304]
	Pain	0.901	0.269	11.183	0.001	2.462 [1.452-4.174]	0.889	0.268	11.008	0.001	2.433 [1.439-4.115]
	Insomnia	0.886	0.196	20.384	<0.001	2.425 [1.651-3.563]	0.925	0.193	22.918	<0.001	2.522 [1.727-3.682]
	Economiclevel	0.596	0.217	7.522	0.006	1.816 [1.186-2.780]	0.640	0.216	8.768	0.003	1.897 [1.242-2.897]
Anxiety	Intercept	-2.377	0.462	26.447	<0.001	-	-2.968	0.335	78.596	<0.001	-
	Sex	-0.129	0.250	0.265	0.607	0.879 [0.538-1.436]	-	-	-	-	-
	Age	-0.012	0.009	1.710	0.191	0.988 [0.971-1.006]	-	-	-	-	-
	Work	-0.254	0.206	1.511	0.219	0.776 [0.518-1.163]	-	-	-	-	-
	Religion	-0.513	0.255	4.040	0.044	0.598 [0.363-0.987]	-0.564	0.250	5.072	0.024	0.569 [0.348-0.929]
	Chronicillness	0.537	0.190	7.962	0.005	1.710 [1.178-2.483]	0.497	0.183	7.369	0.007	1.645 [1.148-2.355]
	Pain	0.659	0.239	7.589	0.006	1.934 [1.210-3.091]	0.641	0.238	7.253	0.007	1.899 [1.191-3.028]
	Insomnia	1.373	0.186	54.213	<0.001	3.946 [2.738-5.686]	1.353	0.183	54.656	<0.001	3.871 [2.704-5.542]
	Economiclevel	0.664	0.206	10.417	0.001	1.943 [1.298-2.909]	0.678	0.205	10.980	0.001	1.969 [1.319-2.940]
Stress	Intercept	-2.724	0.543	25.174	<0.001	-	-3.086	0.260	141.347	<0.001	-
	Sex	0.256	0.264	0.943	0.332	1.292 [0.770-2.165]	-	-	-	-	-
	Age	-0.016	0.010	2.294	0.130	0.985 [0.965-1.005]	-	-	-	-	-
	Work	-0.256	0.238	1.150	0.283	0.774 [0.485-1.236]	-	-	-	-	-
	Religion	-0.004	0.315	<0.001	0.991	0.996 [0.537-1.847]	-	-	-	-	-
	Chronicillness	0.257	0.221	1.354	0.245	1.293 [0.839-1.995]	-	-	-	-	-
	Pain	0.671	0.280	5.764	0.016	1.957 [1.131-3.384]	0.669	0.278	5.808	0.016	1.953 [1.133-3.366]
	Insomnia	0.994	0.217	20.952	<0.001	2.702 [1.765-4.136]	0.967	0.209	21.331	<0.001	2.629 [1.744-3.962]
	Economiclevel	0.385	0.231	2.790	0.095	1.470 [0.935-2.310]	-	-	-	-	-
Negativey Affectivity	Intercept	-2.015	0.418	23.181	<0.001	-	-2.372	0.355	44.655	<0.001	-
	Sex	-0.004	0.217	0.000	0.986	0.996 [0.651-1.523]	-	-	-	-	-
	Age	-0.016	0.008	3.732	0.053	0.985 [0.969-1.000]	-0.017	0.008	4.429	0.035	0.983 [0.968-0.999]
	Work	-0.220	0.189	1.363	0.243	0.802 [0.554-1.161]	-	-	-	-	-
	Religion	-0.275	0.238	1.334	0.248	0.760 [0.476-1.211]	-	-	-	-	-
	Chronicillness	0.501	0.172	8.510	0.004	1.650 [1.179-2.311]	0.499	0.170	8.601	0.003	1.648 [1.180-2.301]
	Pain	0.670	0.210	10.203	0.001	1.955 [1.296-2.950]	0.659	0.209	9.933	0.002	1.933 [1.283-2.913]
	Insomnia	1.265	0.169	55.709	<0.001	3.542 [2.541-4.936]	1.272	0.168	57.015	<0.001	3.569 [2.565-4.965]
	Economiclevel	0.597	0.182	10.805	0.001	1.816 [1.272-2.593]	0.602	0.180	11.131	0.001	1.826 [1.282-2.601]

*SE: standard error #model elaborated using only the statistically significant variables (p<0.05)

d) Predictive model

The multiple logistic regression model elaborated to estimate the probability of occurrence of Depression, Anxiety, Stress and Negative Affectivity in the total sample (n = 1,167) is shown in Table 5. Having religion was a protective factor for the occurrence of Depression and Anxiety while the presence of chronic illness, pain, insomnia and high economic level were risk factors. These were also significant risk factors for the occurrence of negative affectivity in general. Only the presence of pain and insomnia were significant risk factors for the occurrence of stress.

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VI. Discussion

The present study confirmed the validity and reliability of the DASS-21 model for assessing negative affectivity in adults with different temporal conditions of pain characteristics and without pain. People who reported pain had higher scores of depression, anxiety, and stress and increased likelihood of presenting negative affectivity.

Negative affectivity evaluation based on the assessment of stress, anxiety, and depression has been performed in normative [31, 35, 37, 44-46] and clinical samples of various characteristics, including in patients with chronic diseases, insomnia, and chronic pain [2, 22, 47], which are conditions that can trigger and favor negative affectivity [7, 10-12, 48, 49]. The use of DASS allows the simultaneous assessment of stress, anxiety, and depression in both susceptible and non-susceptible populations. However, to obtain valid and reliable evaluations, the psychometric properties of the instrument should be estimated for each population to be studied, since these properties refer to the data and not to the instrument itself [39]. Thus, the present study verified the psychometric properties of the DASS in people with different temporal conditions of pain, and confirmed the validity and reliability of the data, without modifying the instrument. Sardá et al. [47] investigated and confirmed the item-scale correlations and the reliability of the DASS depression subscale in a sample of Brazilians with chronic pain. However, the authors did not present results for validity.

The lack of a significant difference between the mean scores of depression, anxiety, and stress among people with different pain types is controversial [7, 8]. A longitudinal study [7] conducted with adults without pre-established depression and anxiety found no relationship between the pain pattern and these conditions corroborating the results of the present study. Turk and Monarch [50] support that pain is a multidimensional experience and many aspects may affect how pain is perceived and impacts a person's life. Therefore, the presence of pain alone, regardless of its pattern, might be a triggering factor for negative emotions or experiences. On the other hand, Gerrits et al [8] report that in people with diagnosed depression and anxiety disorders, pain duration might aggravate these disorders and, therefore, individuals with chronic pain can be more susceptible to depression and anxiety. Thus, negative affectivity assessment should be considered for all individuals with pain, regardless of their pattern.

Our results indicated a clear overlap of symptoms of depression, anxiety, and stress (i.e. presentation of more than one condition simultaneously) that exceeded the prevalence of each condition alone in individuals with and without pain (Fig 2). Stress, anxiety and depression are conditions difficult to discriminate completely [2], which favors their concomitant occurrence. The results are in agreement with Lovibond and Lovibond [2] who emphasize that despite the conceptual differences between these symptoms, there is a great similarity between them. Therefore, the investigation of negative affectivity, as a general concept that encompasses the mixed symptoms of these three conditions, is advised by several authors [6, 35, 36, 44].

The higher prevalence of negative affectivity among individuals with pain indicates that pain is positively correlated to stress, anxiety, and depression [51]. This result is consistent with the multidimensional theory of pain, which explains that pain has physical, social, cognitive, and affective components, and may be considered a biopsychosocial experience [50]. These components may affect how an individual perceives pain itself, which, in turn, can trigger psychophysiological processes that potentiate stressful situations, intensifying the perception of pain and increasing negative affectivity [50]. Our results indicated that the presence of pain is a relevant characteristic that should be investigated, since it may favor the development negative affectivity, which was similar to the study by Gerrits et al. [7] and Magni et al. [15].

The inverse relationship found between having religious beliefs and the occurrence of depression and anxiety has been reported also by other authors [25, 26]. Individuals with religious or spiritual beliefs and cognitions may present positive coping strategies to face the demands and challenges encountered in life [24], leading to less negative affectivity. Thus, religious beliefs can provide the individual with the perception of the meaning and purpose of life itself [25], positively influencing his mental health, especially with regard to psychological well-being [26].

In the present study, high economic level was a risk factor for both depression and anxiety as well as negative affectivity in general. Similar studies found controversial results [29, 30, 52], as in the studies by Adler et al. [29] and Gallo and Matthews [52], in which symptoms of depression and anxiety were more prevalent in low-income individuals. Bayram and Bilgel [30] also found an inverse relationship between depression and stress scores assessed by DASS and family economic situation of university students in Turkey. Our results might indicate that individuals of higher economic level are more exposed to demands related to negative emotions or have less cognitive / emotional skills to deal with stressors [29] than people of lower socioeconomic level. In addition, the differences between our findings and those of other studies might be related to the different demographic and cultural characteristics of the samples.

Another relevant finding regarding increased risk of depression and anxiety was the presence of chronic disease, which is in agreement with previous studies [10, 11, 53]. Chronic diseases can be self-

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limiting, compromising actions and engagement in daily activities [10], favoring social isolation [11], and increasing the chance of developing negative affectivity. Moreover, the positive and significant association between insomnia and emotional states observed in the present study seems to be in agreement with the literature [12, 13, 48, 49]. For some authors [12, 13], insomnia can both precede and follow depression and anxiety disorders. In a neurobiological perspective, insomnia can lead to changes in the regulation of neural circuits involved in the wake cycle, since cerebral regions related to affectivity and sleep can interact [48], which may influence the individual's emotional reactivity. In addition, stress is one of the psychological effects associated with insomnia [49]. Thus, individuals with difficulty initiating or maintaining sleep may be more susceptible to negative affectivity either through biological or psychological pathways, which may result in the development of mood / anxiety disorders, largely affecting mental health.

Another important outcome of this study was the creation of a regression model of factors associated with negative affectivity. Several studies indicate that individual, demographic, and clinical characteristics may help understand stress, anxiety, and depression manifestations [7, 10-13, 15, 21, 22, 24-26, 29]. The detection of negative affectivity and associated factors can provide useful information for planning individual and collective management strategies, with the primary objective of preventing mental health disorders.

The present study has limitations such as the cross sectional design, which does not allow cause-effect inference, and the non-probability sampling, which may affect the generalization of results. However, a large sample size was used to obtain more similar estimates to the values of the population. In addition, this was a screening study aimed to at identifying the occurrence probability of symptoms of mental disorders in adult individuals with different temporal conditions of pain, which we considered the major contribution of the present work. The results of this study provide information for the elaboration of strategies that favor a more integrated and decisive clinical practice, aiming at the prevention and maintenance of mental health.

VII. Conclusions

The DASS-21 presented adequate validity and reliability for use in adults with different temporal conditions of pain and without pain. Individuals reporting pain have higher scores for the Depression, Anxiety, and Stress subscales. Individual characteristics and pain are factors related to negative affectivity that should be taken into account in clinical or research settings.

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Supporting information

S1 Table: Original and Portuguese version of the Depression, Anxiety and Stress Scale (DASS-21).

Original Version*	Portuguese Version#
1. I found it hard to wind down	1. Tive dificuldade em me acalmar.
2. I was aware of dryness of my mouth	2. Estava consciente que minha boca estava seca.
3. I couldn't seem to experience any positive feeling at all	3. Parecia não conseguir ter nenhum sentimento positivo.
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)	4. Senti dificuldade em respirar (ex. respiração excessivamente rápida, falta de ar na ausência de esforço físico).
5. I found it difficult to work up the initiative to do things	5. Tive dificuldade em tomar iniciativa para fazer as coisas.
6. I tended to over-react to situations	6. Tive a tendência de reagir de forma exagerada a situações.
7. I experienced trembling (e.g., in the hands)	7. Senti tremores (ex. nas mãos).
8. I felt that I was using a lot of nervous energy	8. Senti que estava geralmente muito nervoso.
9. I was worried about situations in which I might panic and make a fool of myself	9.Preocupei-me com situações em que eu pudesse entrar em pânico e parecesse ridículo (a).
10. I felt that I had nothing to look forward to	10. Senti que não tinha nada a esperar do futuro.
11. I found myself getting agitated	11. Senti que estava agitado.
12. I found it difficult to relax	12. Tive dificuldade em relaxar.
13. I felt down-hearted and blue	13. Senti-me desanimado e deprimido.
14. I was intolerant of anything that kept me from getting on with what I was doing	14. Fui intolerante com as coisas que me impediam de continuar o que eu estava fazendo.
15. I felt I was close to panic	15. Senti que ia entrar em pânico.
16. I was unable to become enthusiastic about anything	16. Não consegui me entusiasmar com nada.
17. I felt I wasn't worth much as a person	17. Senti que não tinha muito valor como pessoa.
18. I felt that I was rather touchy	18. Senti que estava irritado.
19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)	19. Eu estava consciente do funcionamento/batimento do meu coração na ausência de esforço físico (ex. sensação de aumento da frequência cardíaca, disritmia cardíaca).
20. I felt scared without any good reason	20. Senti medo sem ter uma boa razão.
21. I felt that life was meaningless	21. Senti que a vida não tinha sentido.

*Lovibond SH, Lovibond PF. Manual for the Depression, Anxiety, Stress Scales Australia: http://www2.psy.unsw.edu.au/dass/; 1995 [updated 10/11/2014; cited 2017 13/09].
#Response categories: 0= did not apply to me at all (never), 1= applied to me to some degree, or some of the time (sometimes), 2= applied to me to a considerable degree, or a good part of time (very often), 3= applied to me very much, or most of the time (almost always).
†Portuguese version was developed in the present study following the spelling agreement established among the Portuguese-speaking countries in 2009.

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Conflicto Trabajo-Familia En El Equipo De Enfermería De Un Hospital Clínico De Alta Complejidad En Chile, 2018

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Abstract- This research determined the relationship between sociodemographic and labor factors with the work-family conflict of the nursing team of a highly complex Clinical Hospital in Chile. Using an analytical cross-sectional design, in a sample of 187 members of the nursing team (Professional nurses, Nurses' Aides and Service Assistants), distributed among the hospital services of Medical-Surgical, Emergency Unit and Pediatrics. A questionnaire was used for sociodemographic and labor characterization and the Work Family Interaction questionnaire (SWING). The data was processed using descriptive and inferential statistics with the SPSS program, version 15. The ethical aspects were safeguarded. The results showed that 87.2% of the nursing team is composed of women, aged 20-39 years, mainly Nursing Assistants (57.2%). The work-family conflict was related to having a relative dependent on their position ($p = 0.02$) and with the remuneration received ($p = 0.02$).

Keywords: *nurses; nurses' aides; family; work; chile.*

GJMR-K Classification: *NLMC Code: WF 330*

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Conflicto Trabajo-Familia En El Equipo De Enfermería De Un Hospital Clínico De Alta Complejidad En Chile, 2018

Adriel Martínez Vargas [α], Nicole Muñoz López [σ], Marcelo Palma Pino [ρ], Aline Pino Lagos [ω] & Dra. Carolina Luengo Martínez [¥]

Resumen- Esta investigación determinó la relación entre los factores sociodemográficos y laborales con el conflicto trabajo-familia del equipo de enfermería de un Hospital Clínico de alta complejidad en Chile. Mediante un diseño de tipo analítico de corte transversal, en una muestra de 187 integrantes del equipo de enfermería (Enfermeros/as profesionales, Auxiliares de Enfermería y Auxiliares de Servicio), distribuidos entre los servicios hospitalarios Médico-Quirúrgico, Unidad de Emergencias y Pediatría. Se utilizó un cuestionario para caracterización sociodemográfica y laboral y el cuestionario Interacción Trabajo-Familia (SWING). El procesamiento de los datos se realizó mediante estadística descriptiva e inferencial con el programa SPSS, versión 15. Se resguardaron los aspectos éticos.Los resultados mostraron que el 87,2% del equipo de enfermería está compuesto por mujeres, con edades entre 20-39 años, principalmente Auxiliares de Enfermería (57,2%). El conflicto trabajo-familia estuvo relacionado con tener un familiar dependiente a su cargo (p= 0.02) y con la remuneración recibida (p=0.02).

Palabras Claves: enfermeros, auxiliares de enfermería, trabajo, familia, chile

Abstract- This research determined the relationship between sociodemographic and labor factors with the work-family conflict of the nursing team of a highly complex Clinical Hospital in Chile. Using an analytical cross-sectional design, in a sample of 187 members of the nursing team (Professional nurses, Nurses' Aides and Service Assistants), distributed among the hospital services of Medical-Surgical, Emergency Unit and Pediatrics. A questionnaire was used for sociodemographic and labor characterization and the Work Family Interaction questionnaire (SWING). The data was processed using descriptive and inferential statistics with the SPSS program, version 15. The ethical aspects were safeguarded. The results showed that 87.2% of the nursing team is composed of women, aged 20-39 years, mainly Nursing Assistants (57.2%). The work-family conflict was related to having a relative dependent on their position (p = 0.02) and with the remuneration received (p = 0.02).

Keywords: nurses; nurses' aides; family; work; chile.

I. Introducción

La familia, es considerada como la más antigua de las instituciones humanas, constituyendo un factor clave para la "comprensión y funcionamiento de la sociedad" (Oliva y Villa 2014).Debido a los permanentes "cambios tecnológicos, económicos, políticos y sociales, que se han generado en las últimas décadas" (Álvarez y Gómez 2011), la forma de la familia ha ido evolucionando, generando diversas transformaciones, entre ellas, el papel que juegan las mujeres dentro de la misma (Chacón 2008). Es así como, la inserción de la mujer al mundo laboral ha generado un cambio en los roles, ya que no sólo el hombre es quien tiene el rol de proveedor, sino que la mujer se posiciona con un aporte económico importante a la familia. Situación que ha repercutido en lo laboral y familiar, pero de una manera dispar para hombres y mujeres. Ya que esto, no ha significado un cambio en la repartición equitativa de las tareas domésticas y responsabilidades familiares, las cuales siguen siendo principalmente una carga para la mujer (García 2015). Lo que muchas veces, conlleva a una incompatibilidad en los roles que las mujeres deben desempeñar tanto en el trabajo como en el hogar, debido a la inequidad de las responsabilidades entre el hombre y la mujer, donde esta última, se ha visto más afectada, puesto que debe cumplir con su vida laboral y familiar simultáneamente, luego esto puede llevar a subordinar tiempo familiar por mayor dedicación al trabajo o viceversa (García 2015). Pudiendo desencadenar, según se cita en Otálora (2007), un Conflicto entre el Trabajo y la Familia (CTF), una forma de conflicto en la que la "presión de los roles que se asumen en el trabajo y la familia son, de alguna forma mutuamente incompatibles" afectando el bienestar, el funcionamiento de las organizaciones, relaciones sociales, familiares y laborales. El CTF surge principalmente por la excesiva demanda de tiempo en el trabajo, incompatibilidad en los horarios y la tensión causada por los intentos de la persona para cumplir con los deberes (Otálora 2007) que se desprenden del trabajo y de la familia.

Ahora, tal como se cita en Herrera y Cassals (2005), el Equipo de Enfermería no queda ajeno al CTF, dadoque se encuentra insertoen un ambiente laboral de constante estrés, desarrollando en ocasionesin satisfacción que podría llevar consigo hasta su hogar. Asimismo, el trabajar en un sistema de turnos rotativo, torna el trabajo más estresante que en aquellos profesionales que ejercen su empleo en turnos diurnos,

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generando agotamiento físico y mental con más frecuencia (Andrades y Valenzuela 2007).Otros estudios, en enfermeros/as han concluido quela carga laboral y la dimensión tiempo tienen efectos en la manifestación del CTF (Fang 2017). Luegolas largas jornadas que las mujeres dedican al desarrollo de funciones a nivel laboral y familiar, limitan el desarrollo de otras funciones, ya que el tiempo del cual disponen para compartir con la familia cada vez es menor, al igual que la disminución paulatina de espacios para la vida social, el ocio y la recreación (Álvarez y Guerra 2012). En este mismo sentido Álvarez y Gómez (2011) señalaron que la sobrecarga de rol -tanto en lo laboral como en lo familiar- afecta a las mujeres como antecedente del conflicto trabajo-familia, lo cual se explica por las condiciones laborales (carga de trabajo y formas de contratación) y la doble jornada de trabajo. Con respecto a las implicaciones psicosociales, se encontró que la salud se ve afectada por cambios en el estado de ánimo y cansancio físico. Y como factores protectores que ayudan a las mujeres a disminuir la presencia del conflicto trabajo-familia, el apoyo social (doméstico y de pareja) y los recursos internos (la toma de decisiones y el establecimiento de prioridades) (Álvarez y Gómez 2011).Por otro lado, desde la óptica parental, en Chile se ha legislado al respecto pero, estas leyes mayoritariamente están dirigidas hacia la mujer, por lo que se impide de forma indirecta el desempeño de la corresponsabilidad parental dentro de la familia (Ministerio del Trabajo y Previsión Social 2003).

Debido a los cambios mencionados con anterioridad se ha ido cambiando progresivamente la estructura tanto de la familia como los roles que se cumplen como madre y padre (Ortega et al. 2013), se han generado nuevos agentes que dificultan la labor en el ámbito profesional y/o familiar de cada individuo. Afectando considerablemente la perspectiva que tienen ya sea con su trabajo o con una insatisfacción en el cumplimiento de su rol dentro de la dinámica familiar (Abarca et al. 2016). Por esto investigar en este tema es relevante, ya que un inadecuado funcionamiento familiar podría impactar en las decisiones personales y profesionales, afectando en los indicadores de salud, estrés, satisfacción laboral etc. (Lapo y Jácome 2015).

Por otra parte, usualmente el Equipo de Enfermería está compuesto, por el Profesional de Enfermería, Auxiliar de Enfermería y Auxiliar de Servicio, cada uno de ellos cumplen diferentes roles con distinto nivel de responsabilidad y complejidad, pero todos necesarios para otorgar una atención integral y de calidad al usuario. Es así como, el profesional de enfermería realiza actividades concernientes a la Gestión del Cuidado en lo referido a la planificación, ejecución, evaluación y control de las actividades de cuidado al paciente(Ministerio de Salud, 1968), por su parte el Auxiliar de Enfermería realiza labores orientadas a la ejecución de actividades de cuidado de la higiene personal del paciente, alimentación, prevención de lesiones por presión, entre otros (Ministerio de Salud, 1978)y el Auxiliar de Servicio ejecuta actividades orientadas al mantenimiento de la unidad del paciente, traslado de pacientes y exámenes entre otras funciones. No obstante, no se han rescatado estudios que analicen el CTF, incorporando a los auxiliares de enfermería y a los auxiliares de servicio, a pesar de que comparten el ambiente laboral, están expuestos a situaciones similares y el trabajo integrado de todo el equipo permitirá otorgar cuidados de calidad al paciente. Es así, que el objetivo de este estudio es determinar la relación entre los factores sociodemográficos y laborales y el Conflicto Trabajo - Familia del equipo de enfermería de un Hospital Clínico de alta complejidad en Chile, 2018.

II. Material y Métodos

Estudio de carácter cuantitativo, analítico de corte transversal. Se estudiaron a 187 integrantes del Equipo de Enfermería (enfermera/o, auxiliar de enfermería y auxiliar de servicio) pertenecientes a un Hospital Clínico de alta complejidad en Chile, en el 2018; que se desempeñan en los servicios clínicos Médico-Quirúrgico, Unidad de Emergencia y Pediatría. Se incluyeron a los funcionarios/as con turnos diurnos o rotativos, que lleven más de tres meses trabajando en dichos servicios y que otorguen cuidados directos a los usuarios. Se excluyeron aquellos funcionarios con licencia médica o permiso legal durante el proceso de la recogida de la información. Los datos se obtuvieron a través de la aplicación de un cuestionario de Caracterización Sociodemográfica y Laboral, elaborado por los autores, que contiene 12 preguntas cerradas, de las cuales 6 corresponden a características sociodemográficas y 6 preguntas orientadas a la caracterización laboral. Y para evaluar el CTF se aplicó el cuestionario interacción trabajo-familia (SWING), el cual en su versión española (Moreno et al. 2009) presenta 22 ítems divididos en cuatro sub escalas, según la dirección de la interacción se clasifica en Conflicto Trabajo -Familia y Conflicto Familia-Trabajo; y el tipo de relación existente entre ambos dominios ya sea positiva o negativa. La adaptación al español del cuestionario interacción trabajo-familia (SWING) cuenta con una confiabilidad entre 0,77 y 0,89, lo que indica una adecuada consistencia interna (Moreno et al. 2009). Haciendo referencia a su validez existen correlaciones significativas entre sus componentes de interacción negativa ($r=0,61$- $p<0,01$) y los componentes de interacción positiva ($r= 0,06$- $p< 0,01$). Por lo anterior, se infiere que las interacciones negativas son independientes de las interacciones positivas al momento de evaluar las relaciones entre el trabajo y la familia. Con una escala tipo Likert donde las

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puntuaciones fluctúan entre 0 (nunca) a 3 (siempre). Las preguntas correspondientes a cada sub escala se dividen en: 1-8 interacción negativa trabajo-familia, 9-12 interacción negativa familia-trabajo, 13-17 interacción positiva trabajo-familia y de 18- 22 interacción positiva familia-trabajo. Para efectos del estudio se decidió evaluar las dimensiones interacción negativa trabajo-familia e interacción positiva trabajo familia. Por tanto, solo se utilizaron las dimensiones positiva y negativa del cuestionario de escala SWING. Esta investigación consideró la ley 19.628 sobre la Protección de la vida Privada(Ministerio Secretaría General de la Presidencia 1999), la Declaración de los Derechos Humanos (UNESCO 1948)y para cada etapa de este estudio se consideró los siete requisitos éticos de Emanuel (2003).Además de la autorización del Comité de Ética Clínico del establecimiento en estudio y todas las participantes leyeron y firmaron dos copias del formulario de consentimiento informado, recalcándoles que su participación es completamente voluntaria, que la información recopilada es de carácter anónimo y confidencial y además que no se verían negativamente afectados por negarse a participar. Para el procesamiento de los datos se utilizaron medidas de tendencia central (media), de dispersión (desviación estándar) y de posición (percentil 25, 50 y 75). Las variables cuantitativas fueron descritas con frecuencias observadas y porcentajes. La validez interna de las dimensiones utilizadas, fueron medidas con α-Cronbach. Con el objetivo de comparar medias de tres o más grupos independientes, se aplicó la prueba de Kruskal Wallis, debido a la distribución anormal de los datos. Normalidad fue testeada por medio de las pruebas de Kolmogorov-Smirnov y Shapiro Wilk, con ajuste de Lilliefors. La organización, el procesamiento y análisis estadístico de los datos se realizó con el programa SPSS, versión 15.

III. Resultados

Durante el mes de septiembre del año 2018, se encuestaron a 187 integrantes del equipo de enfermería. De los cuales, el 87,2% fueron mujeres, el 42,2% indicó una edad entre 20-29 años, el 38,0% no tenía hijos, el 81,3% señaló no tener algún familiar dependiente a su cargo, el 63,1% indicó estar soltero, el 55,1% informó tener un nivel educacional técnico-profesional, seguido por la formación universitaria (28,3%).

Luego, el 57,2% de los integrantes del equipo de enfermería se desempeña como auxiliar de enfermeríay el 91,4% trabaja en cuarto turno. El 51,9% señaló una antigüedad laboral de 1-5 años, el 87,2% indicó no trabajar en otra institución, además un 40,6% posee un contrato a contrata o plazo fijo y el 46% recibe una remuneración entre 400.001 – 600.000 CLP. El 54,0% de los integrantes del equipo de enfermería pertenecen al servicio clínico de pediatría.

Ahora, la tabla 1, muestra las dimensiones que evalúa la escala SWING, se obtuvo un puntaje mínimo de 0,2 y 0 para interacción positiva y negativa respectivamente, teniendo ambas interacciones en común un puntaje máximo de 3 (considerando una escala de 0 a 3). Además la validez interna de la escala medida por α-Cronbach, fue de 0,82 para interacción positiva trabajo-familia y de 0.87 para interacción negativa trabajo-familia.

Tabla 1: Medidas de resumen que evalúan las dimensiones de la escala Swing

Dimensiones	Mínimo	P25	P50	P75	Máximo	α-Cronbach
Interacción positiva	0,2	1,2	1,8	2,4	3,0	0,82
Interacción negativa	0	0,62	1	1,5	3,0	0,87

Luego, al relacionar los puntajes de la escala SWING con las características sociodemográficas, en la tabla 2, se puede apreciar que tener un familiar dependiente a su cargo es estadísticamente significativo para la interacción negativa trabajo-familia, con un p-value de 0,02. Sin embargo, no fue igual para la interacción positiva. Mientras que el sexo, edad, número de hijos, estado civil y nivel educacional no fueron estadísticamente significativos para la interacción trabajo- familia tanto positiva como negativa.

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Tabla 2: Relación del puntaje obtenido en la escala SWING y las características sociodemográficas de los participantes del estudio

Características sociodemográficas	Interacción Positiva	Interacción Negativa
	$\bar{x} \pm sd$	$\bar{x} \pm sd$
Sexo	**p=0,08**	**p=0,58**
Hombre	1,73 ± 0,64	0,89 ± 0,46
Mujer	1,81 ± 0,76	1,12 ± 0,59
Edad (años)	**p=0,61**	**p=0,35**
20-29	1,88 ± 0,69	1,13 ± 0,54
30-39	1,82 ± 0,79	1,08 ± 0,56
40-49	1,52 ± 0,80	1,05 ± 0,76
50-59	1,87 ± 0,71	1,11 ± 0,74
60-69	1,56 ± 0,59	0,76 ± 0,32
Número de hijos	**p=0,13**	**p=0,98**
0	1,81 ± 0,73	1,09 ± 0,54
1	1,92 ± 0,67	1,09 ± 0,59
2	1,79 ± 0,82	1,07 ± 0,61
3 y más	1,48 ± 0,73	1,13 ± 0,67
Familiar dependiente a su cargo+	**p=0,66**	**p=0,02**
Pareja o cónyuge	1,85 ± 0,44	1,03 ± 0,46
Padres (madre y/o padre)	1,82 ±0,87	0,89 ± 0,59
Suegro/a	0	0
Nietos/as	2,40 ± 0,00	0,87 ± 0,00
Estado civil	**p=0,22**	**p=0,53**
Soltero	1,80 ± 0,76	1,06 ± 0,55
Casado	1,89 ± 0,71	1,19 ± 0,64
Separado	1,42 ± 0,63	0,94 ± 0,61
Viudo	1,30 ± 0,99	1,13 ± 0,18
Acuerdo de unión civil	0	0
Nivel educacional	**p=0,36**	**p=0,28**
Educación básica	0	0
Educación media	1,55 ± 0,62	1,21 ± 0,78
Educación técnico-profesional	1,87 ± 0,77	1,01 ± 0,54
Educación post grado/postítulo	1,78 ± 0,84	1,22 ± 0,66

**Prueba de normalidad (Kolmogorov-Smirnov, Shapiro-Wilk)*
P valor de la prueba de Kruskal Wallis
+ Se consideraron solo participantes que indicaron tener un familiar dependiente a su cargo

Finalmente, en la tabla 3 se aprecia que al relacionar los puntajes de la escala SWING con las características laborales, la remuneración es una variable estadísticamente significativa para una interacción negativa trabajo-familia con un p-value de 0,026, no siendo así para la interacción positiva, mientras que la categoría ocupacional, sistema de turnos, antigüedad laboral, trabaja en otra institución y tipo de contrato no fueron estadísticamente significativos para interacción positiva y negativa. Al relacionar los servicios clínicos con el puntaje obtenido en la escala SWING no se evidencia una relación estadísticamente significativa para la interacción positiva y negativa trabajo familia.

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Tabla 3: Relación del puntaje obtenido en la escala SWING y las características laborales de los participantes del estudio

Características laborales	Interacción Positiva	Interacción Negativa
	$\bar{x} \pm sd$	$\bar{x} \pm sd$
Categoría ocupacional	**p=0,22**	**p=0,16**
Enfermera/o	1,77 ± 0,72	1,20 ± 0,57
Técnico de enfermería	1,87 ± 0,77	1,02 ± 0,54
Auxiliar de servicio	1,56 ± 0,61	1,17 ± 0,77
Sistema de turnos	**p=0,07**	**p=0,24**
Diurno	1,37 ± 0,42	1,45 ± 0,91
Cuarto turno	1,84 ± 0,76	1,07 ± 0,55
24 horas	1,80 ± 0,53	1,00 ± 0,00
Antigüedad laboral	**p=0,60**	**p=0,26**
Menos de 1 año	1,95 ± 0,93	1,13 ± 0,70
1- 5 años	1,85 ± 0,69	1,10 ± 0,55
6-10 años	1,73 ± 0,86	1,14 ± 0,54
11-15 años	1,82 ± 0,66	1,19 ± 0,75
16-20 años	1,31 ± 0,85	0,60 ± 0,36
Más de 20 años	1,77 ± 0,70	1,03 ± 0,60
Trabaja en otra institución +	**p=0,61**	**p=0,96**
Cargo clínico y/o asistencial	1,60 ± 0,00	1,06 ± 0,09
Docencia	2,00 ± 0,72	1,34 ± 0,68
Otro tipo de actividades	1,87 ± 0,61	1,17 ± 0,29
Tipo de contrato	**p=0,96**	**p=0,69**
Contrato indefinido	1,79 ± 0,73	1,00 ± 0,59
Contrata o contrato a plazo fijo	1,77 ± 0,81	1,14 ± 0,63
Honorarios	1,83 ± 0,63	1,11 ± 0,57
Reemplazante (a plazo fijo)	1,85 ± 0,72	1,04 ± 0,47
Remuneración	p=0,15	p=0,026
Menos de 400.000	1,54 ± 0,72	1,32 ± 0,68
400.001-600.000	1,92 ± 0,76	0,99 ± 0,52
600.001-800.000	1,71 ± 0,70	0,94 ± 0,55
800.001-1.000.000	1,93 ± 0,76	0,95 ± 0,73
Más de 1.000.000	1,76 ± 0,72	1,24 ± 0,55
Servicios Clínicos	p=0,62	p=0,51
Médico-Quirúrgico	1,72 ± 0,69	1,15 ± 0,49
Unidad de Emergencia	1,87 ± 0,79	1,00 ± 0,56
Pediatría	1,80 ± 0,74	1,12 ± 0,62

**Prueba de normalidad (Kolmogorov-Smirnov, Shapiro-Wilk) p valor de la prueba de Kruskal Wallis*
+ Se consideraron solo participantes que indicaron trabajar en otra institución.

IV. Discusión

Este estudio permitió determinar los factores sociodemográficos y laborales relacionados al CTF del equipo de enfermería de un Hospital Clínico de alta complejidad en Chile.

Respecto a la caracterización sociodemográfica de la población de estudio, se encontró que predomina el sexo femenino por sobre los hombres participantes del estudio, situación que no se escapa de la realidad, como se expone en el estudio "La enfermería vista desde el género", ya que la mujer siempre ha estado ligada o asociada a las practicas humanas en salud (García et al. 2004). Asimismo, los encuestados corresponden a una población adulta- joven, con edades que oscilan entre los 20-29 años, lo cual puede estar fuertemente asociado a la tasa de renovación del personal de

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enfermería a causa de la jubilación de los miembros del equipo (Colegio de enfermeras 2018) motivada en parte por los incentivos a retiro que el gobierno chileno otorga a los funcionarios públicos que hayan cumplido entre 60-65 años (DIPRES2016). En adición, la población de estudio mayoritariamente estasoltera, realidad que ha ido en aumento, siendo esto atribuible a un cambio en los estilos de vida, dado por un incremento en el costo de la vida y la competitividad laboral, luego se prefiere la estabilidad económica antes que la formación de una familia (Cienfuegos 2015). En este mismo sentido la tendencia en la cantidad de hijos reportados ha ido decreciendo, ya que en su mayoría los miembros del equipo de enfermería indicaron mayoritariamente no tener más de 1 hijo (71,2%). Esto puede estar explicado por los avances y diversos cambios culturales, económicos, sanitarios y educacionales por los que cursan la mayoría de los países, permitiendo el mayor desarrollo de la mujer en el ámbito personal y profesional, postergando de esta manera la maternidad (Donoso et al. 2009). Al respecto Díaz et al. también detectaronesta tendencia en su estudio, en el cualla mitad de las mujeres encuestadas de edad productiva eran solteras y más de la mitad no tenía hijos. Es probable que esta tendencia se dé como consecuencia del deseo de superación de las mujeres, por alcanzar un mejor salario o un mejor puesto dentro de sus organizaciones, el cual implica dedicar más tiempo al trabajo y menos a su familia (Díaz et al. 2013).

Por otro lado, el 18,7% de los encuestados señalaron tener un familiar dependiente a su cargo. A este respecto,la literatura señala que principalmente, los padres son quienes requieren de dichos cuidados y atención, en virtud de esto, se ha visto que principalmente que son las mujeres quienes se hacen responsables, ya sea esposa, hija o nuera (Fundación de las familias).

En cuanto a la caracterización laboral de la población de estudio, se destaca la antigüedad laboral de la mayoría de los integrantes del equipo de enfermería, la cual osciló entre 1 a 5 años al ejercicio de su profesión, antigüedad estrechamente relacionada a la población que se estudió, siendo principalmente adulta- joven, en tanto no lleva mucho tiempo desde que comenzó a ejercer en el mundo laboral. Ahora, entre los miembros del equipo de enfermería que desempeñan labores en otra institución, la actividad que destaca con más frecuencia es la docencia, sin duda labor ejercida por los enfermeros/as participantes del estudio. Por otro lado, la población de estudio, cumple un sistema de trabajo llamado de cuarto turno, referido a un turno diurno de 12 hrs, seguido de un turno nocturno de 12 hrs. y dos días libres. Este turno se realiza durante los siete días de la semana, considerando también los días festivos. Estos resultados concuerdan con lo expuesto en diversos estudios nacionales (Andrades y Valenzuela 2007; Luengo C 2016; Ceballos et al. 2015) y latinoamericanos (Lorenz y De Brito 2014; Organización Panamericana de la Salud 2005) pero difiere de los sistemas de rotación europeos en que porcentajes menores de personal de enfermería trabajan en sistema rotativo día/noche, la mayoría trabaja sólo durante el día o sólo en las noches (Trinkoff et al. 2010). Existen diversas actividades productivas que, por su propia naturaleza o por criterios de eficienciaeconómica, están obligadas -u optan- por establecer una mayor continuidad en sus operaciones, abarcando la totalidad o la mayor parte de las horas del día, lo que se realiza mediante el sistema de turnos. Como el sector salud, cuyos servicios pueden ser requeridos por los consumidores durante la mayor parte del día o de la noche o, incluso, en cualquier momento de ellos (Dirección del trabajo 2011). Por lo que, el trabajo en turnos se vuelve la mejor alternativa, para dar continuidad a la atención. No obstante, estudios han expuesto que trabajar en turnos, en especial los nocturnos, tiene efectos negativos sobre la salud de las personas los que se dan a distintos niveles, por una parte se ve alterado el equilibrio biológico, por el desfase de los ritmos corporales y por los cambios en los hábitos alimentarios y también se dan perturbaciones en la vida familiar y social (Ministerio del trabajo y asuntos sociales,2006)Además, estos largos turnos que realiza el equipo de enfermería, como se explicó anteriormente, repercuten indudablemente en su vida, ya que no coinciden en las actividades sociales, resintiéndose la vida familiar y las redes de apoyo social (Seguel et al. 2015; Barcellos et al 2010).

En cuanto a la distribución de la población de estudio, está se concentra en el servicio clínico de pediatría, resultado atribuible a la mayor infraestructura y servicios de mayor complejidad, lo cual demanda una mayor dotación de personal para cubrir las necesidades de los usuarios.

Con respecto a los puntajes obtenidos de la escala SWING, se aprecia que los integrantes del equipo de enfermería refieren interacción negativa trabajo- familia, donde el 75% los encuestados reportan 1,5 puntos. Resultado que concuerda con otros estudios realizados en enfermeros/as (Fang2017; Gözükaraa y Çolakoğlub 2010; Guerrero y Gil 2016).Dejando en evidencia que esta es una problemática que debe ser abordada integralmente. Ahora, al relacionar estos puntajes (interacción positiva y negativa trabajo- familia) con las características sociodemográficas de los integrantes del equipo de enfermería, se encontró significancia estadística en la variable “familiar dependiente a su cargo” para la dimensión “interacción negativa trabajo-familia”, situación no observada para la interacción positiva. Este resultado se asemeja a lo expuesto por Otálora (2007), quien señala que el cuidado de familiares adultos y adultos mayores a cargo del sujeto de estudio, fue

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relevante y estadísticamente comprobable para el conflicto generado desde el trabajo a la familia, puesto que se ve afectado el estado de salud y el bienestar del cuidador, producto de las actividades que requieren de gran esfuerzo físico y que producen estrés al tener la responsabilidad de cubrir las necesidades del familiar y su correcta adherencia al tratamiento (Flores et al. 2012). No obstante, el resto de las variables de caracterización sociodemográfica analizadas no arrojan resultados estadísticos que permitan afirmar algún tipo de relación negativa o positiva para la interacción trabajo-familia.

A partir del análisis estadístico realizado a los puntajes resultantes del contraste de la escala SWING con las características laborales de la población de estudio, es posible afirmar una relación estadísticamente significativa entre la variable "Remuneración" con la "interacción negativa trabajo-familia", no así para la "interacción positiva trabajo-familia", lo anterior concuerda con el estudio de Aguirre(2009) en el cual enfatiza en la inconformidad por parte del personal sanitario de la remuneración recibida, específicamente los enfermeras/os, quienes consideraban que su remuneración era inferior a la que les corresponde acorde a las labores que desempeñan. Como exponen Parra y Paravic (2002) en una investigación en profesionales de enfermería chilenos, estos opinan que "las remuneraciones son menos de lo que merecen, están mal pagadas/os, no les proporcionan lujos ni cumplen con sus expectativas, también creen que no son adecuadas a sus gastos normales y que son malas".

En términos generales, la literatura refleja que los salarios del personal de enfermería en general son bajos en comparación a otros sectores de la economía y entre profesionales del mismo sector, realidad presente tanto a nivel latinoamericano como en otros países de América del Norte, Europa y Asia (Llop-Gironésa et al 2015; Luengo y Sanhueza 2016). Estos niveles salariales provocan emigración a otras áreas de la economía cambiándose de trabajo y profesión (Buchan y Sochalski 2004; Gómez 2008) y altas tasas de ausentismo y recambio, sin contar la conflictividad permanente (Parra 2003). Puesto que no se recupera la gran inversión en el proceso de formación y no se satisfacen las expectativas personales y profesionales (Esquivel y Pereyra 2017). Además, estos bajos salarios hacen que el pluriempleo y sobrecarga laboral a través de la realización de horas extras constituya un fenómeno muy extendido en estos profesionales y ampliamente documentado (Organización Mundial de la Salud 2013; Ibáñez 2016).

Por contraparte, el resto de las variables analizadas en la caracterización laboral no reportan evidencia estadística que sugiera algún tipo de relación negativa o positiva significativa con la interacción trabajo-familia.

Luego, al realizar un análisis estadístico para evaluar una posible relación entre los Servicios Clínicos en los que desarrollan sus actividades los individuos del estudio y el tipo de CTF (interacción positiva y negativa), se logra evidenciar que no existe valores estadísticos que indiquen relación entre las variables estudiadas. Contrastando esto con estudios previos, como la investigación realizada por Estrada y cols. el cual discute sobre las diferentes percepciones, respecto a la calidad de vida profesional, según el servicio en el que se labora, debido a diversos factores que varían entre un servicio y otro (Estrada Gutierrez y Lagos 2016).

Finalmente se puede concluir que, el equipo de enfermería presenta tanto interacción positiva como negativa trabajo-familia, esta últimase ve relacionada a tener un familiar dependiente a su cargo y la remuneración. Es importante seguir profundizando en estudios de la temática para contribuiren su prevención y solución.

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Child Infectious Morbidity in the USSR during the World War II

By Sher S.A., Albitskiy V.Yu. & Baranov A.A.

Abstract- This article presents the results of historical and medical research reflecting infectious morbidity among children during the Second World War (the Great Patriotic War 1941–1945). The research is based on archival and literary sources. The study is relevant because the majority of historical and medical research devoted to the war had been carried out in the Soviet epoch and did not always depict an objective image due to the ideological concepts of that time, which often prohibited the publication of certain information. Inconsiderable in number studies have been conducted on this topic in post-Soviet Russia, yet are selective or localized. A review of a wide range of sources provides an independent perspective on the dramatic situation concerning the significant increase of childhood infections during the war. As a result of systemic control measures carried out by public health services, childhood infections had not become endemic. Despite the rising number of tuberculosis cases, STDs, and malaria in the early years of the war, further spread of the socially significant pathologies was prevented.

Keywords: infectious child morbidity, child tuberculosis morbidity, the second world war (the great patriotic war 1941-1945), children's evacuation.

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CHILDINFECTIOUSMORBIDITYINTHEUSSRDURINGTHEWORLDWARII

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List of abbreviations

TB - tuberculosis

STDs – sexually transmitted diseases or venereal diseases

USSR – Union of Soviet Socialist Republic

RSFSR – Russian Soviet Federated Socialist Republic

SARF – State Archive of the Russian Federation

I. Introduction

May 9, 2020, Russia will celebrate the 75th anniversary of the Victory in the Great Patriotic War, which was integral part of the Second World War. It was the cruelest war in the history of humanity. According to estimates, about 55 million people, 1,800,000 children under 16 years, died during the Second World War. The casualties of the Soviet Union in that war amounted to about 27 million. The most terrible crimes of the Nazis in the occupied Soviet territories were the brutal extermination of children [1].

A drastic deterioration of living conditions of the population, enemy air raids, shelling, prolonged stay in bomb shelters, starvation, death of family members, unprecedented migration processes, decrease in the number of pediatricians and nurses due to mobilization to the military service during the Great Patriotic War hurt children's health. The war as an extreme social phenomenon caused an increase in childhood infections and socially significant diseases (STDs and tuberculosis).

The conception of this research was the analysis of situation with the infectious morbidity of children in the USSR during the Second World War. This study is relevant due to two circumstances. First of all, the majority of historical and medical research devoted to the war had been carried out in the Soviet epoch and did not always depict an objective image due to the ideological concepts of that time, which often prohibited the publication of certain information. Secondly, few studies have been carried out on this topic in post-Soviet Russia yet are selective or localized.

II. Research Sources

To describe the condition of children's health, their infectious morbidity during the war, the authors of the given article have studied medical reports, information notices and other documents from the published and unpublished archive materials of the State Archive of the Russian Federation, Archive of the Academy of Medical Sciences of the USSR, regional archives, as well as the research works of pediatric scientists and leaders of Children's Health Care Service, who were contemporaries of the war, and the post-Soviet publications.

a) Main results of the research

Archival materials confirm the enormous damage caused by the German occupants both to the entire national economy of the Soviet Union and to children's institutions. In the occupied territory of the USSR (cities and suburban areas of Smolensk, Voronezh, Kursk, Rostov, North Ossetia republic, the territory of Belarus, Ukraine, etc.) fascist aggressors destroyed all children's hospitals, consultations, nurseries [2]. So, Nazis arranged the first floor of Kursk Central Children's Consultation to stables, the Children's hospital – to hostel for German soldiers, the nursery # six and Infant-feeding center – to broker's board. When the German army retreated, they had exploded the buildings [3]. Hitler's invaders had destroyed not only children's institutions and their property, as well as killed

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children. M.D. Kovrigina in her book “War and Children” cited some terrifying facts from the indictment documents presented at the International Military Tribunal in Nürberg. So, the Nazis in the resort city of Teberda (North Caucasus) exterminated 500 sick children with bone tuberculosis who were treated in a sanatorium [1]. On Gatchina (Leningrad region), the Nazis “gathered hungry children wandered around the town in a cold stone building, surrounded it with barbed wire, and dozens of little prisoners were dying of hunger every day in this concentration camp” [3].

In such a cruel situation, the incidence of childhood infections increased significantly. The most severe military disasters, extremely unfavorable epidemiological situations affected children who lived in the frontline, occupied territories, and the blockade Leningrad. So, in the Moscow and Leningrad regions, diphtheria morbidity increased due to insufficient coverage of children with anti-diphtheria vaccinations, especially in rural areas, as well as the late hospitalization of diphtheria patients. As a result of this situation mortality from diphtheria increased in some infectious hospitals [4]. Malaria spread widely with the severity of the course of a disease. For example, in occupied Voronezh, 49.4% of children aged 4 to 12 suffered from malaria during 1943. Infections proceeded against the background of nutritional hypotrophy, anemia [5].

The rapid advance of fascist troops across the territory of the Soviet Union required the organization of an urgent forced evacuation of the population, and, first of all, large children's masses, to the east of the country. By August 1, 1941, 250,000 school-age children had been evacuated from Moscow and Leningrad [6]. In September and October, 60,000 students with teachers from the Moscow boarding schools and 300,000 women with children additionally were evacuated from the capital to the regions of Gorky, Molotov, Chelyabinsk, Novosibirsk, the Tatar, Mordovian, Chuvash, Mari Autonomous Republics and the Kazakh Soviet Republic [7]. By May 1942, 1,648 children's institutions and 188,364 children were removed from Leningrad to the above-mentioned-regions [8]. Before August 15 of the same year, about 25,000 orphans were evacuated [9].

Evacuated inland children had been not in such a dangerous situation, but also they had been in a bind of life conditions. In the first war year, huge nutrition problems (de facto persistent malnutrition), unsatisfactory water supply, and heating dramatically deteriorated the sanitary and epidemiological situation in the evacuation regions. In many areas, evacuated children lived in extremely horiffic living conditions. As a result, pediculosis and scabies spread [6]. These circumstances redounded to widespread childhood infections. For instance, the archival data of the Gorky region, which was a major center for the reception of evacuated people, showed that in October 1941, compared to 1940, the incidence of epidemic typhus and measles was increased respectively in 40% and 20%. The situation with the dysentery morbidity had deteriorated. If in the pre-war March 1941 in Gorky region 717 patients with dysentery registered, then in September 1941 – 3,658 sick cases [10].

In January 1942, the government adopted a series of legislative and regulatory documents to prevent outbreaks of epidemic diseases. The childhood infections committee was created in the People's Commissariat of Public Health (Ministry for Public Health) of the USSR, which organized anti-epidemic and disinfection teams and sent 175 medical doctors and 350 nurses to work in First aid medical stations, mother and child rooms at railroad stations [11]. In 1942 compared with 1940, the patient capacity of children's hospitals increased by 28%. Moreover, almost half of them were infectious beds. These measure allowed the hospitalization of children with diphtheria and scarlet fever. Specialized units opened for patients with measles and pertussis in some hospitals for the first time [12].

In November 1942 the People's Commissariat of Public Health of the USSR had approved instructional and methodological documents concerning carrying out anti-epidemic work by city children's consultations and polyclinics. This document indicated the necessity to provide a preventive vaccination by children's clinics for outpatients. Particular attention was focused to vaccinate against smallpox. According to this document, pediatricians were due to immediately hospitalizing patients with scarlet fever and diphtheria [13]. March 24, 1944, the People's Commissariat of Public Health of the USSR had approved the "Instruction on the Organization of Isolation Facilities and Quarantine Groups in Kindergartens." On the base of this Instruction, isolation wards were organized in kindergartens to serve patients with mild forms of childhood infections, and quarantine groups were formed for children who had contact with homogeneous disease (measles, pertussis, epidemic parotitis, chickenpox) [14].

Thanks to the measures, pediatricians were able to prevent epidemic diseases and reduce child morbidity. In the first half of 1943, the level of infectious diseases decreased in the Tatar Republic, Penza, Kirov, Gorky regions [15]. In 1943 the morbidity of dysentery and toxic dyspepsia decreased by more than three times. The case rate reduction was connected with mandatory hospitalization of sick children, treatment with sulfa drugs, bacteriophages in children groups [9]. In 1944 the morbidity of diphtheria, scarlet fever, pertussis, and measles continued to decrease (Table 1) [16].

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Table 1: Incidence of childhood infectious diseases in the Soviet Union (USSR) and Russian Soviet Federative Socialist Republic (RSFSR) during the Great Patriotic War (1:10,000 population)*

Diseases	USSR			RSFSR				
	1940	1941	1944	1940	1941	1942	1943	1944
Diphtheria	9,9	10,3	8,2	11,4	13,0	16,9	13,0	7,7
Scarlet fever	12,6	13,6	5,0	-	-	-	-	-
Pertussis	25,7	25,7	23,1	-	-	-	-	-
Measles	68,1	80,0	65,8	72,0	85,0	37,9	16,3	14,5

**Footnote: In 1941-1942 relative incidence rates were determined only in 39 backlands*

According to the table data, the highest level of diphtheria morbidity occurred in 1942 in RSFSR. The increase in the incidence in large cities, as well as in the Moscow region, was explained by a high population density and closer contact between children. Almost 50% of the cases were children of preschool age. A very noticeable decrease in the incidence of diphtheria began in 1943 and continued steadily during 1944. The maximum prevalence of measles (85 per 10,000 population) were in the second half of 1941 due to the massive evacuation of the children from the western and central regions of the country to the eastern. From 1942 the measles morbidity began to decrease markedly, and in 1943-1944 came down quickly. Measles rate reduction was explained by the uninterrupted supply of anti-measles sera from specialized measles laboratories and research institutes of some backlands [2].

As a result of the carried out anti-epidemic measures, improvement of sanitary conditions of orphanages, boarding schools and regular schools in 1943 in Gorky area the morbidity of measles decreased in 14 times, scarlet fever – in 12 times, dysentery – in 3 times, typhoid – in 2 times, diphtheria – 1,5 times compared to 1940. In 1945 compared to 1940, the morbidity of epidemic typhus was reduced by 72%, dysentery – by 86%, scarlet fever – by 31% in this area. The child mortality decreased by 23.2% over the nine months of 1943 compared to 1940 in the Gorky region [10].

During the Great Patriotic war, STDs had been spread, especially in the territory occupied by German troops, where brutal exploitation and violence of the civilian population, including children. On November 3, 1943, the People's Commissariat of Public Health had approved the Instruction for the Prevention of Venereal Diseases in Children's Institutions. According to this Instruction, special rules for admitting children to institutions were established to prevent syphilis. At the slightest suspicion of syphilis, the mother and the child got referrals for a serological test and, if necessary, an X-ray of the limbs. Each child who admitted to orphanage and boarding school had Wasserman's reaction. Sick children with positive Wasserman's reactions were not allowed in children's institutions and referred for antiluetic treatment (archaic Arsenic drug combination of novarsenol, miarsenol, and bioquinol). Children without clinical and serological symptoms but were born from mothers with syphilis were admitted to the nursery only after one combined course of therapy [17].

During the Great Patriotic War, as was always the case during periods of hostilities, when sanitary and hygienic living conditions, nutrition, had been deteriorated, resisting power to disease decreased, the problem of preventing the spread of tuberculosis among both military and civilian populations, including children, became topical issues.

The situation with children's tuberculosis was particularly difficult in Leningrad, where this disease had some features connected with extremely quantitative and qualitative lack of food (children received on food stamp 125 g of bread in November 1941, 200 g in December 1941, 400 g in February 1942). According to pathoanatomical data of one of the Leningrad hospitals, in 1942, the child case fatality rate from tuberculosis compared with 1940 increased almost two times. Most of the sick children had extensive damages to bronchial and mesenteric lymph nodes. Pulmonary TB was diagnosed second in frequency of occurrence, disseminated processes predominated [18].

By the unified methodology of the Central Research Institute of Tuberculosis, a comparative study of tuberculosis-infected patients was tested in Moscow, Gorky, Alma-Ata, and Novosibirsk. This research showed a steady increase amount of tuberculosis-infected among schoolchildren during the war. The proportion of tuberculosis-infected children aged 8-12 increased from 37.7% in 1940 to 56-61% in 1944 and adolescents aged 13-17, respectively, from 56.4-72% to 64.8-82%. The incidence of tuberculosis among schoolchildren also increased. So, the examination of children in Moscow in 1944 identified that 3.3% of young schoolchildren and about 4% of teenagers had pulmonary tuberculosis with 1.5% of active forms. According to similar examinations, 4.8% of schoolchildren in Saratov, 6.5% in the Gorky region, 12.6% in the Stalingrad region were affected by tuberculosis [19]. The tuberculosis morbidity among schoolchildren was lower in 1944 than in 1942-1943, but higher than the pre-war level [20].

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From the first months of the war, several normative documents were approved aimed at combating tuberculosis among the children: the directive letter "Measures to preserve the TB network and improvement of TB care to the population" (August 1941); order "Mandatory vaccination of newborn BCG against tuberculosis." On August 8, 1942, the People's Commissar of Public Health of the USSR issued a circular letter on the early detection of tuberculosis in pediatric outpatient clinics and children's hospitals, improving its timely diagnosis. For the review of diagnostic errors, children's consultations and polyclinics should organize joint conferences with TB dispensaries [13].

On July 7, 1943, the People's Commissar of Public Health of the RSFSR prepared a Certificate "Measures to combat tuberculosis." The certificate indicated that the appointments with the TB specialists were resumed in children's consultations, polyclinics, and TB-dispensaries in the Kuibyshev, Kirov, Omsk, the Buryat-Mongol Autonomous Republic and other regions. In some cities (Kalinin, Kuibyshev, Chapaevsk, etc.) for the early diagnosis of tuberculosis, TB doctors conducted screenings of children in nurseries, kindergartens, schools, and, if necessary, gave referral for lung X-ray. Children with identified tuberculosis intoxication were distributed to special sanatory groups in nurseries and kindergartens and students to sanatory "forest schools." All children of early and preschool age had gotten a test of Pirquet's reaction for the detection of tuberculosis in Kuybyshev, Gorky, Chapaevsk, Syzran, Dzerzhinsk, Pavlov, Balakhna, and other cities. Since the end of 1942, newborns vaccination had been activated in urban maternity hospitals. However, often vaccination work was complicated by the viability of vaccines with a limited expiration date. According to the medical report of the People's Commissariat of Public Health of the USSR, vaccination of newborns was carried out by 81.5% in 1942, by 87.5% in the first quarter of 1943 in the Moscow region, by 86.3% in the Buryat-Mongol Autonomous Republic. But in some regions, in particular, in the Kirov, BCG vaccination was given only by 40% due to the problem with the vaccine's delivery [21].

On August 2, 1943, the instruction "The struggle against tuberculosis among children at an early age" was approved. To timely detect tuberculosis in young patients, all vaccinated and unvaccinated children had the Pirquet's reaction. Children with a positive Pirquet's result, as well as a negative one, but with suspicion of tuberculosis, were given a Mantoux test. A remarkable point of this instruction was the organization of 1 – sanatory groups in nurseries and children's consultations for small patients with chronic tuberculosis, inactive forms of peripheral lymph nodes tuberculosis, residual pleurisy, lymphadenitis in the resorption stage, tuberculosis of the skin and ossicles; 2 – sanatoriums for young children with pulmonary and osteoarticular TB. The city and regional selection committee of experts had carried out the selection of children for TB-resort [17].

The above-mentioned instructions let TB-specialists and pediatricians improve the diagnosis of tuberculosis in the early stages to ensure the isolation of children infected and sick with tuberculosis, their treatment, recovery, and prevention of the spread of the disease.

III. Conclusion

Review of a wide range of sources, including documents from the State Archives of the Russian Federation, provides an independent perspective on the dramatic situation concerning the significant increase of childhood infections during the Great Patriotic war both in the occupied territory and in the regions with evacuated children. As a result of the systematic anti-epidemic measures carried out by the central and regional health authorities, the epidemics of childhood infections were blocked and did not become a typical phenomenon of wartime. Despite a significant increase of tuberculosis, STDs, and malaria morbidity in the first two years of the war, the further spread of these socially significant diseases were prevented.

Conflict of Interests
Not declared

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Tips for writing a good quality Medical Research Paper

1. Choosing the topic: In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

2. Think like evaluators: If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

3. Ask your guides: If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

4. Use of computer is recommended: As you are doing research in the field of medical research then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

5. Use the internet for help: An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.

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6. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

19. Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

20. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

21. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

22. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

23. Upon conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.

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Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.

Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

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Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

Content:

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

The Administration Rules

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

Segment draft and final research paper: You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

Written material: You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.

Criterion for Grading a Research Paper (Compilation) by Global Journals

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals.

Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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