

Evaluation of medical intern work hours in Senegal

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Abstract

Background: in many countries, medical intern work hours have been discussed for a long time and many schedules has been modified in order to improve it. In our country, this topic has never been studied.

Methods: It was a cross sectional study including all resident regardless of their specialties. An online questionnaire was shared to all the members of the Senegalese association of medical Interns.

Results: Overall, 102 answers were collected. The average age was 28.3 years. More than half of the resident stated that they stay at hospital more than eight hours a day. Besides, 83,5 % declared doing more than 40 hours a week. In addition, 37,2 % of resident said that they were “on call” between 4 and 8 times monthly and 15,1% were “on call” more than 8 times per month. We have seen an average of 55,7 hours with up to eighty hours extremes.

Conclusion: Medical intern work hours is a good subject of discussion, in such an under developed country like ours.

Background

Senegalese medical internship exam is each year registered by a presidential decree [1]. This exam that takes place on December is composed of a written and oral test. The interns will be chosen on the basis of the best result during this selective exam. These residents are assigned to different medical department according to their choice for at least eight semesters of training. Considering their particular role in providing direct medical care to patients under supervision, their work time can be superior to the legal limits including weekends, holidays and night shift.

Eight hours per day and 40 hours a week are the standard duty hours according to the Senegalese labor law [2]. Since this exam establishment in 1974, any study has been performed to evaluate their work time. Although, residents work hour is very well studied in many developed countries. Taking in account that, there is no relation between intern time work and patients’ safety, however these work hours can have an impact on the resident well-being [3, 4].

Our aim in this study was to evaluate of medical intern work hours in the different specialties.

Methods

This study is made with the agreement of intern association committee. It is a cross sectional study including all senegalese residents who passed medical internship exam. An anonymous online questionnaire was sent to all the members of the Senegalese association of medical Interns regardless of their specialties [14].

The parameters studied were: age, year of residency, intern specialties, number and duration of night shifts and their work hour.

Results

Overall, 102 answers were collected. The average age was 28.3 years. Most of the answers were given by resident between first and third year (Fig. 1). We found that 52,6% of the responders were pursuing medical specialties (Fig. 2).

Considering the work hour, More than half of the resident stated that they stay at hospital more than eight hours a day. (Fig. 3).

In addition, 41% of medical intern said that they were working at least on Saturday or Sunday and 25% of them claimed to be at hospital at least one weekend out of two. Furthermore, 70% of the responders stated that they use to work all the weekend several times monthly.

Specialties concerned by night shift represented 72.5%. Among them, 47,7% are working all day long (Fig. 4).

We noticed that only 47,7% of the residents were doing less than 4 overnights in the month, whereas 37,2% were doing between 4 and 8 and 15,1% of them were making more than 8 monthly.

Besides, 95,5% of resident didn't get a rest after their overnight and 63,6% claim that they are sometimes doing two successive one-call days.

Also, 83,5% declared doing more than 40 hours a week with an average of 55,7 hours of work per week. As well as 23,5% were doing more than 60 hours per week and 4% were making more than 80 hours (Fig. 5).

Discussion

It was reported that, there is less than one doctor for 10000 inhabitants in low income countries. This important gap basic medical needs can explain the longer work hours of medical intern in these countries.

In Senegal, resident work time has never been a studied topic. The average work time we found in our study which is more than 15 hours must be questioned.

In fact, a relationship has been established between the interns' work time and safety and more precisely blood exposure and road accident risks [5]. For each 1000 resident, 40 are victims of blood exposure, and this rate is increasing during overnight [6, 7]. Work time is also increased by overnight number and duration. Our study revealed also that more than 15% of resident are doing at least 8 one-call days per month. Even though, 95% of them don't get a rest after night shift. There is also a link between that time work and the resident wellbeing [8, 9]. By restricting their work time, not only interns 'sleep will be improved but also their motivation and quality of life. Besides, it can decrease the risk of depression [10, 11, 12].

Limit Of The Study

We have only studied the residents' presence at hospital. Further researchs should be performed to define this work time impact on their quality of life, their schedule but also the consequences on patient's safety. In fact, a randomized control trial showed that residents' medical errors increase with their work hours (36 hours versus 16 hours) [13].

Conclusion

In low income countries' health systems, medical interns' work hour can be more important compared to developed countries. However, this should not lead to negative consequences both on medical interns and patients.

Authors declared no conflicts of interest.

Abbreviations

Not applicable

Declarations

Ethics approval and consent to participate: This study is made with the agreement of intern association committee (AIAIHS) which belong to Health Department of Senegal. We have verbal consent of all members because committee said it will be acceptable

Consent for publication: all members who give answer are consent to publication

Availability of data and materiel: Not applicable

Competing interests: no competing interests

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Authors contribution: all authors have contribute to this publication

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References

1. <https://studylibfr.com/doc/6321517/d%C3%A9cret-n%C2%B072-642-du-29-mai-1972-relatif-%C3%A0-l-internat-en-m…>.

2. <http://www.droit-afrique.com/upload/doc/senegal/Senegal-Code-1997-du-travail.pdf>. Loi Numéro 97 – 17 du 01 Décembre 1997.
3. Kathlyn E, Fletcher SQ, Davis W, Underwood RS, Mangrulkar, Laurence F, McMahon. Jr. and Sanjay Saint. Systematic Review: Effects of Resident Work Hours on Patient Safety. *Ann Intern Med*. 2004;141:851–7.
4. Sigrid Veasey R, Rosen B, Barzansky, et al. Sleep Loss and Fatigue in Residency Training A Reappraisal. *JAMA*. 2002;288(9):1116–24. doi:10.1001/jama.288.9.1116.
5. Pnina Weiss M, Kryger M, Knauert. Impact of extended duty hours on medical trainees. *Sleep Health*. 2016;2:309–15.
6. Parks DK, YetmanRJ, McNeese MC, Burau K, Smolensky MH. Day-night pattern in accidental exposures to blood-borne pathogens among medical students and residents. *Chronobiol Int*. 2000;17(1):61–70.
7. Ayas NT, Barger LK, Cade BE, Hashimoto DM, Rosner B, Cronin JW, et al. Extended work duration and the risk of self-reported percutaneous injuries in interns. *JAMA*. 2006;296(9):1055–62.
8. Pnina Weiss M, Kryger M, Knauert. Impact of extended duty hours on medical trainees. *Sleep Health*. 2016;2:309–15.
9. Weaver, et al The Association Between Resident Physician Work Hours and Safety and Health. *The American Journal of Medicine* (2020) 133:e343 – e354. <https://doi.org/10.1016/j.amjmed.2019.12.053>.
10. Philibert I, Nasca T, Brigham T, Shapiro J. Duty-hour limits and patient care and resident outcomes: can high-quality studies offer insight into complex relationships? *Annu Rev Med*. 2013;64:467–83.
11. Hutter MM, Kellogg KC, Ferguson CM, Abbott WM, Warshaw AL. The impact of the 80-hour resident workweek on surgical residents and attending surgeons. *Ann Surg*. 2006;243(6):864–71.
12. Gottlieb DJ, Peterson CA, Parenti CM, Lofgren RP. Effects of a night float system on house staff neuropsychologic function. *J Gen Intern Med*. 1993;8(3):146–8.
13. Landrigan CP, Rothschild JM, Cronin JW, Kaushal R, Burdick E, Katz JT, et al. Effect of reducing interns' work hours on serious medical errors in intensive care units. *N Engl J Med*. 2004;351(18):1838–48.
14. <https://docs.google.com/forms/d/1rqSpOPK7V8-sTFBW0EUCPCAw8KvsluRwllliH51Hc60/edit>.

Figures

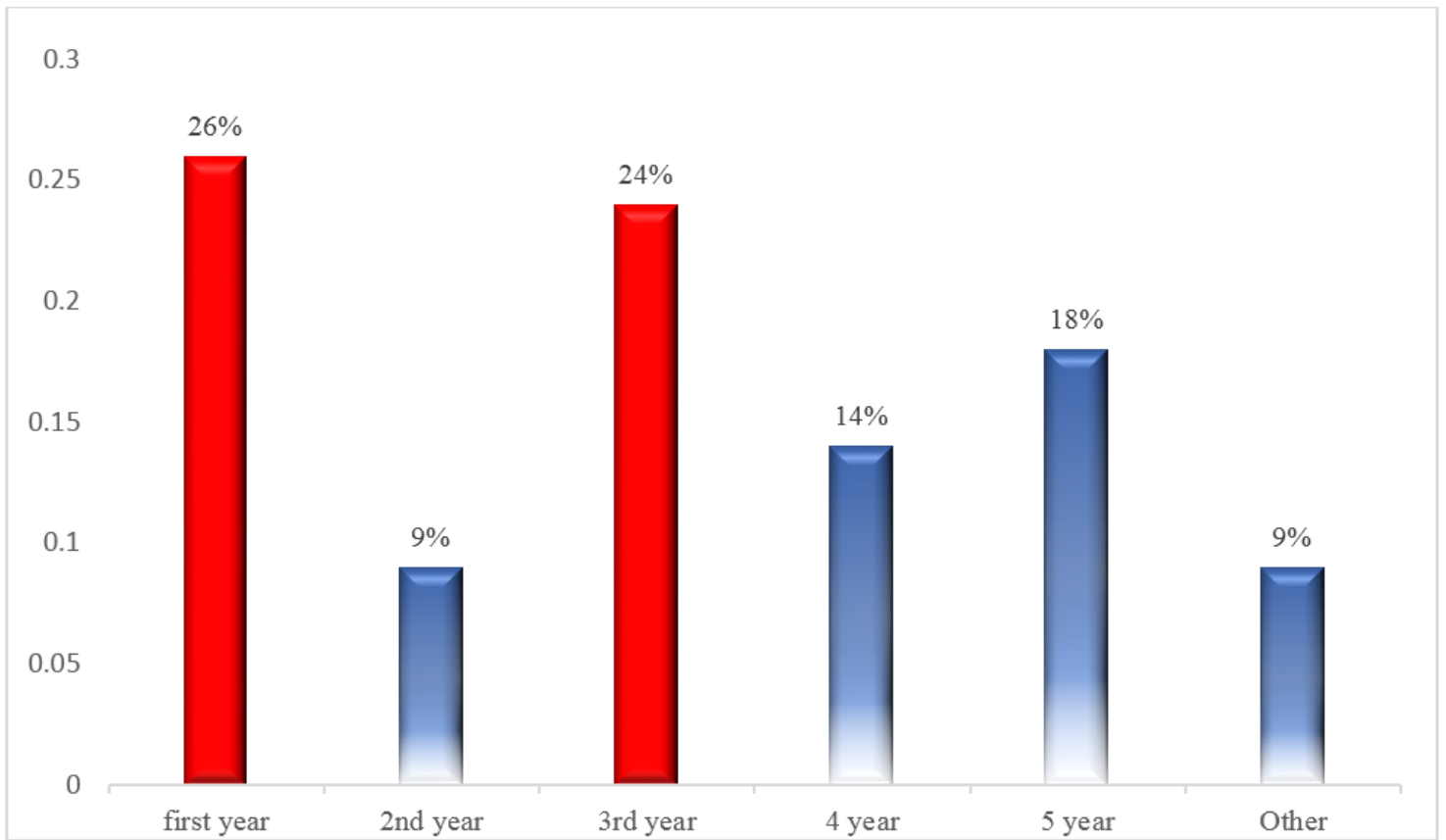


Figure 1

Distribution of medical interns according to their year of residency (n=102)

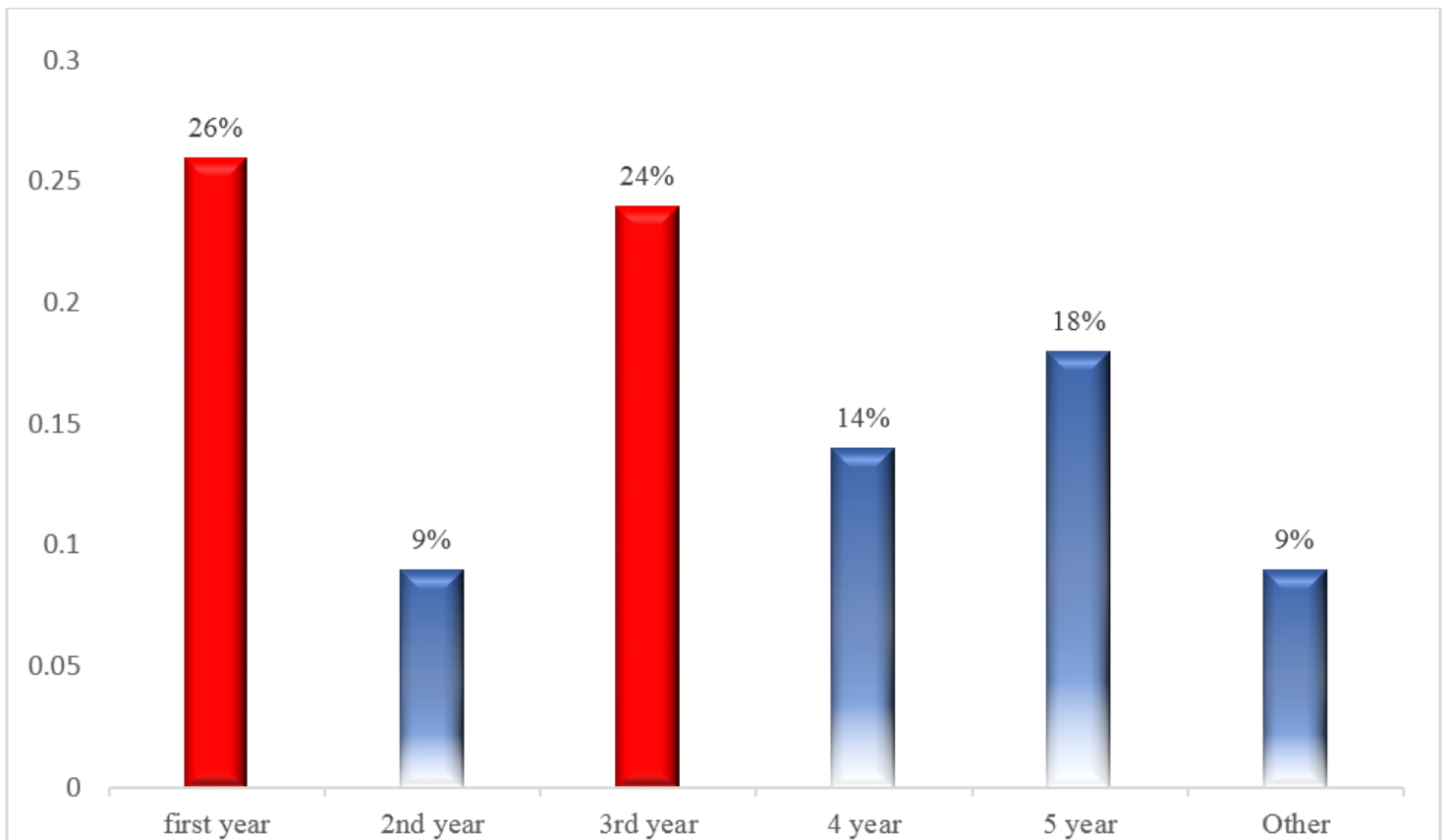


Figure 1

Distribution of medical interns according to their year of residency (n=102)

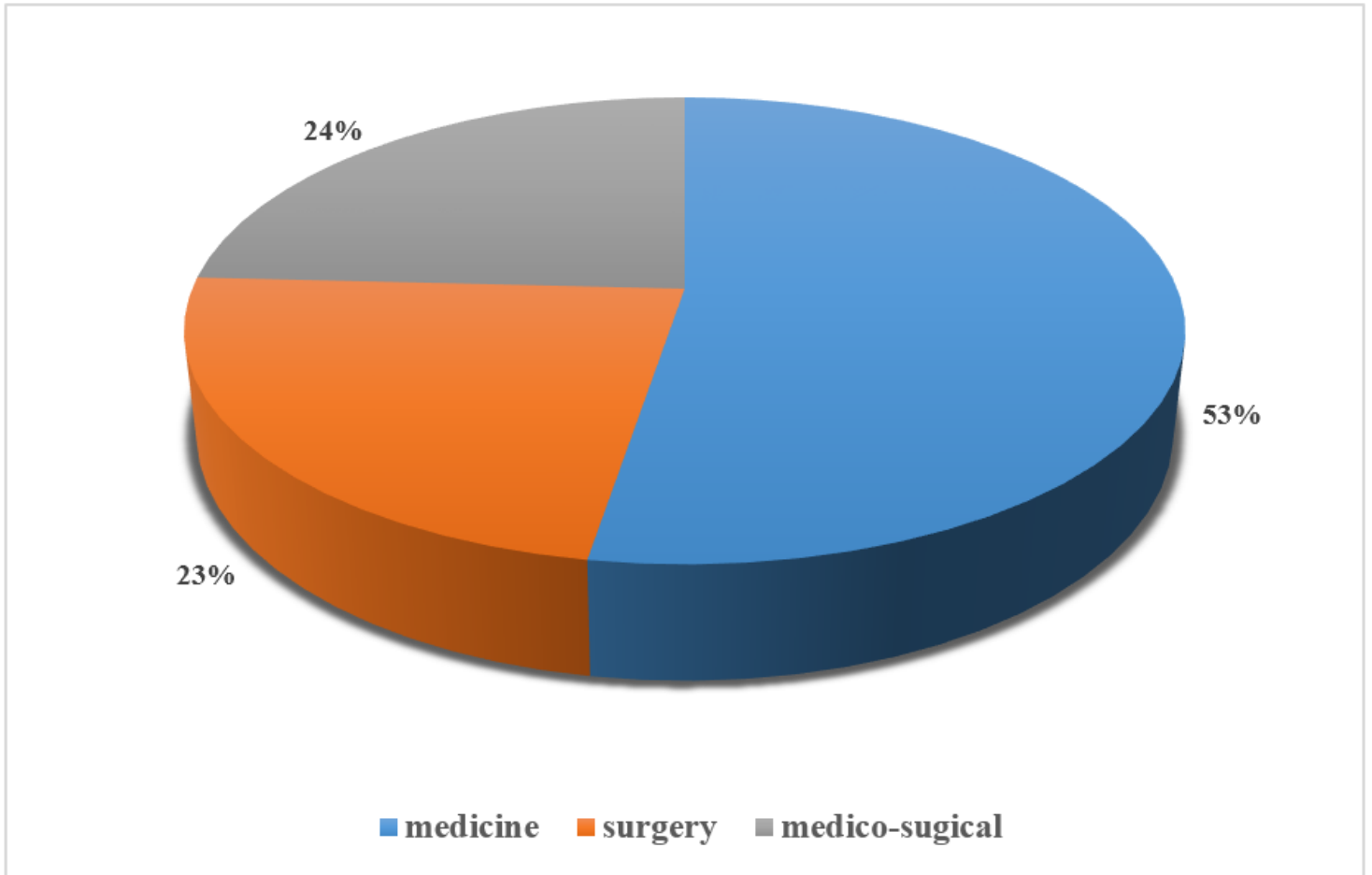


Figure 2

Distribution of medical interns according to their specialties (n=102)

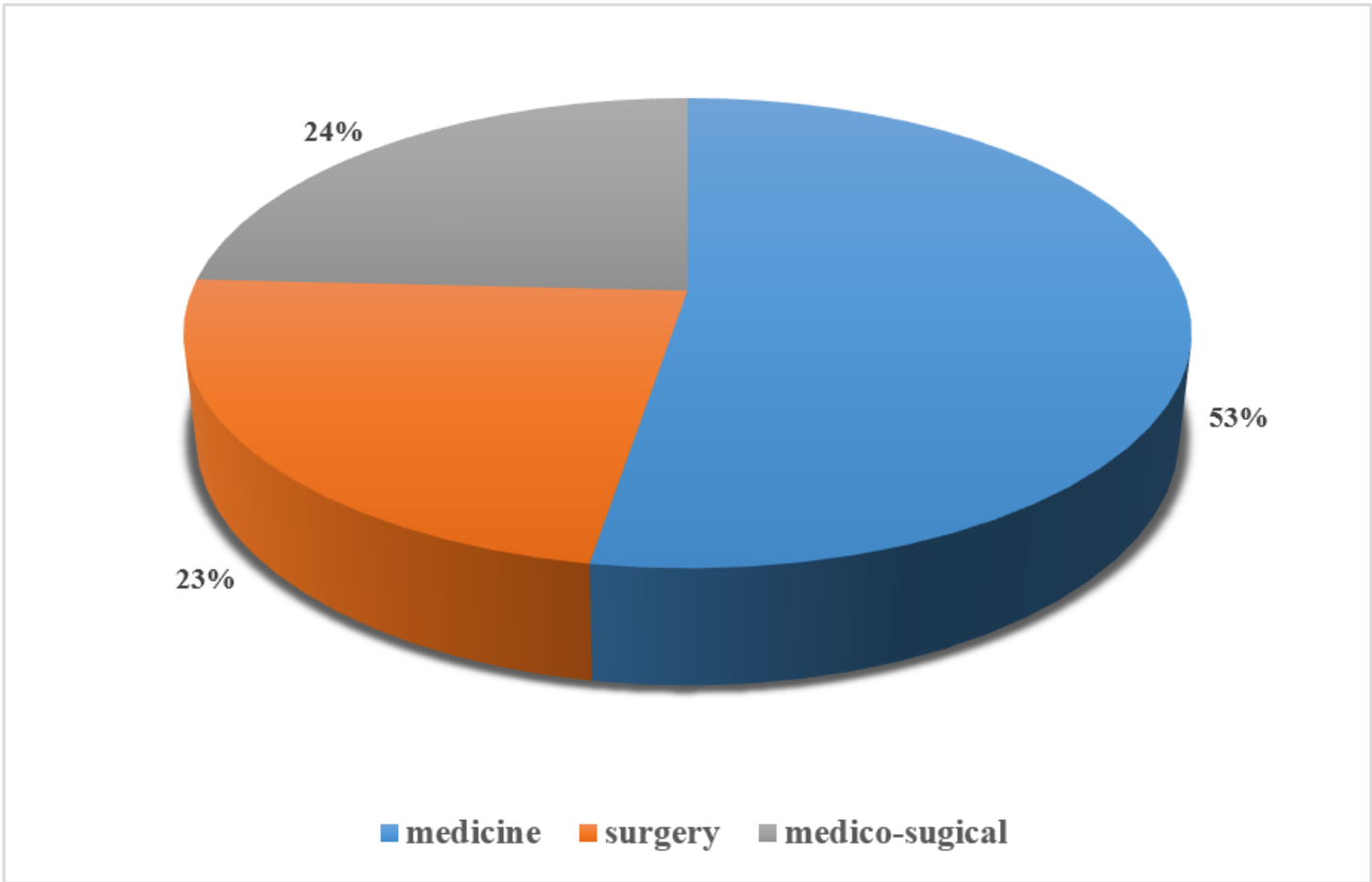


Figure 2

Distribution of medical interns according to their specialties (n=102)

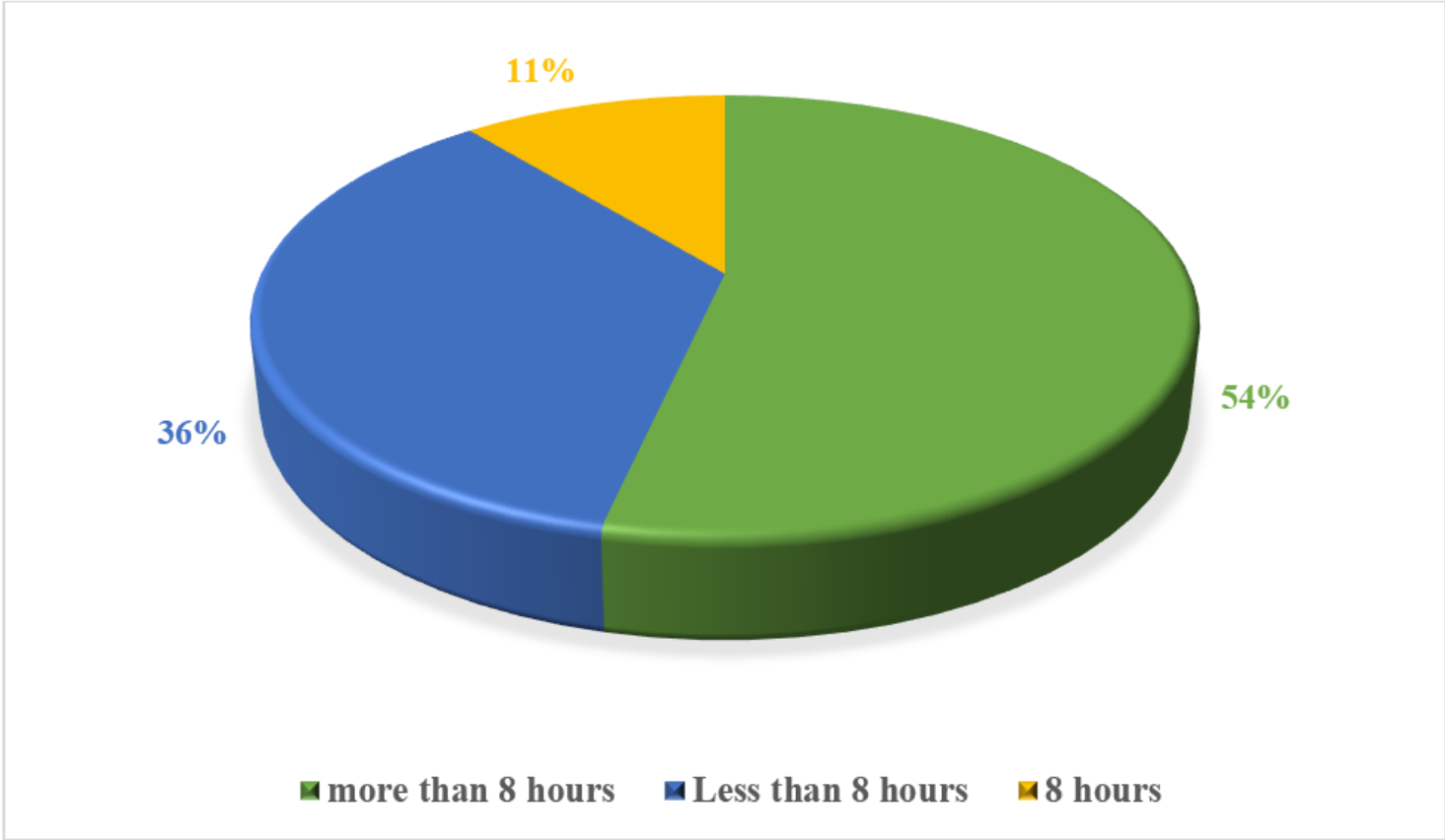


Figure 3

Distribution of medical interns according to their work hours (n=102)

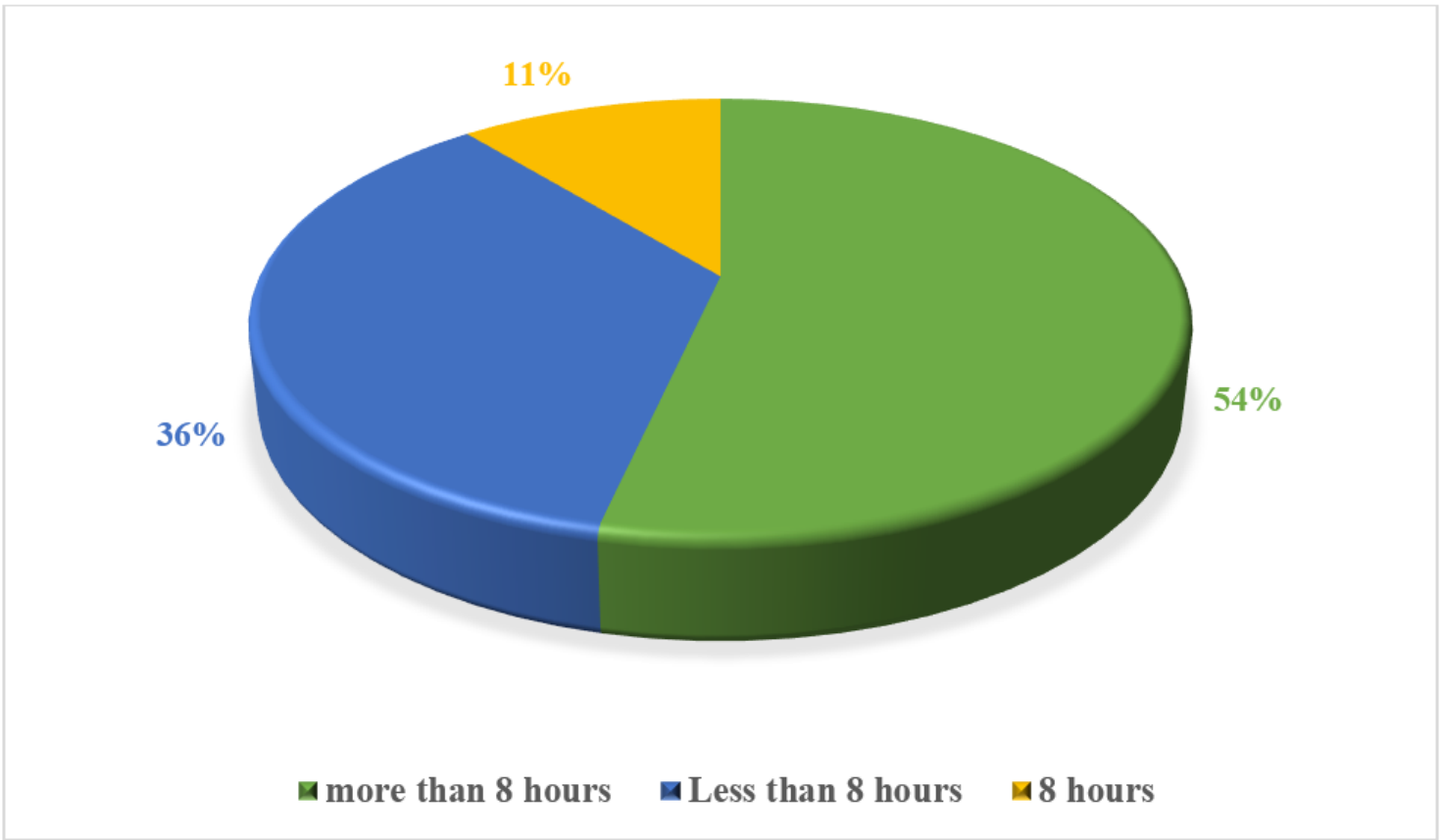


Figure 3

Distribution of medical interns according to their work hours (n=102)

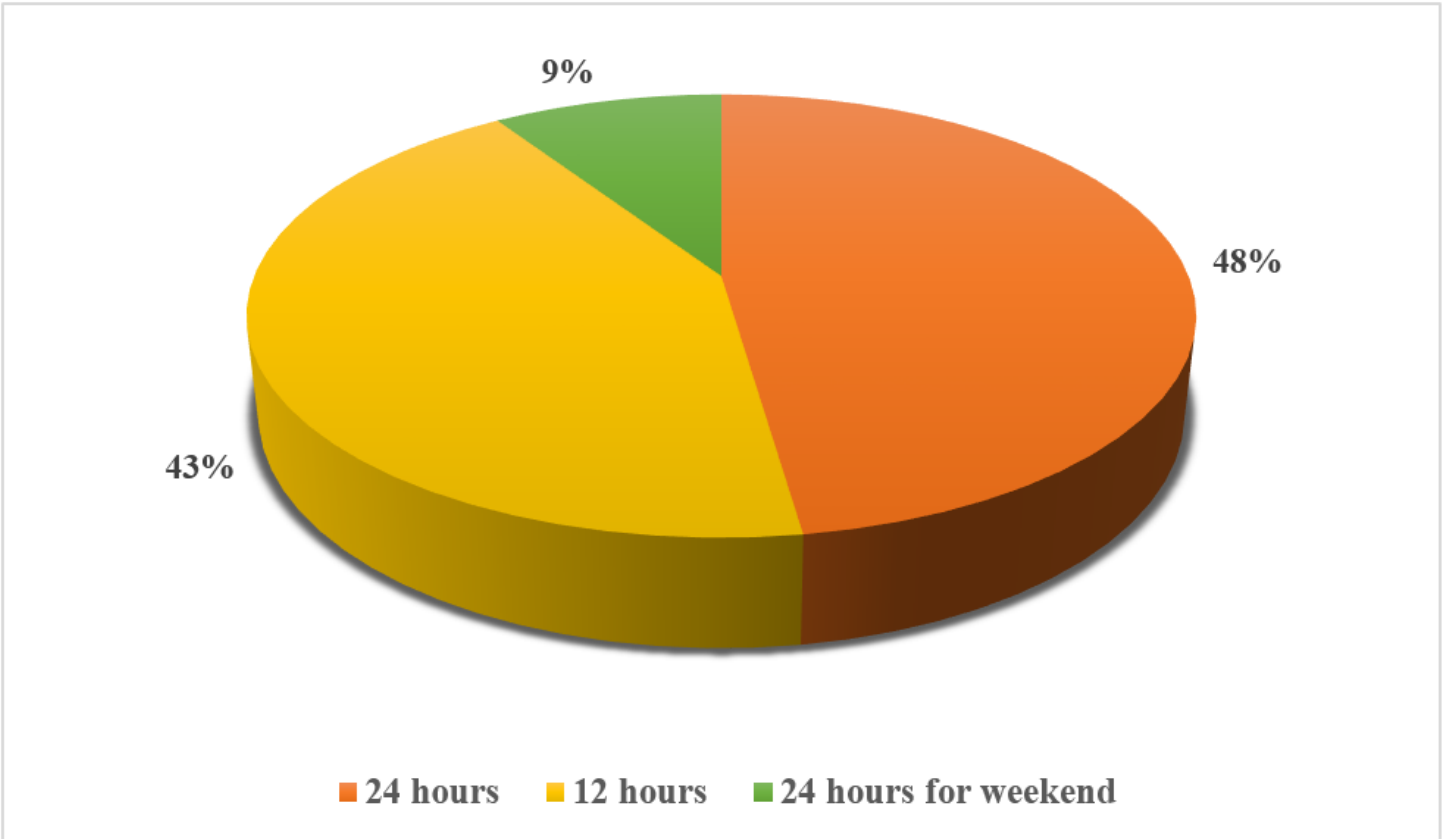


Figure 4

Distribution of medical interns according to the duration of their night shift (n=102)

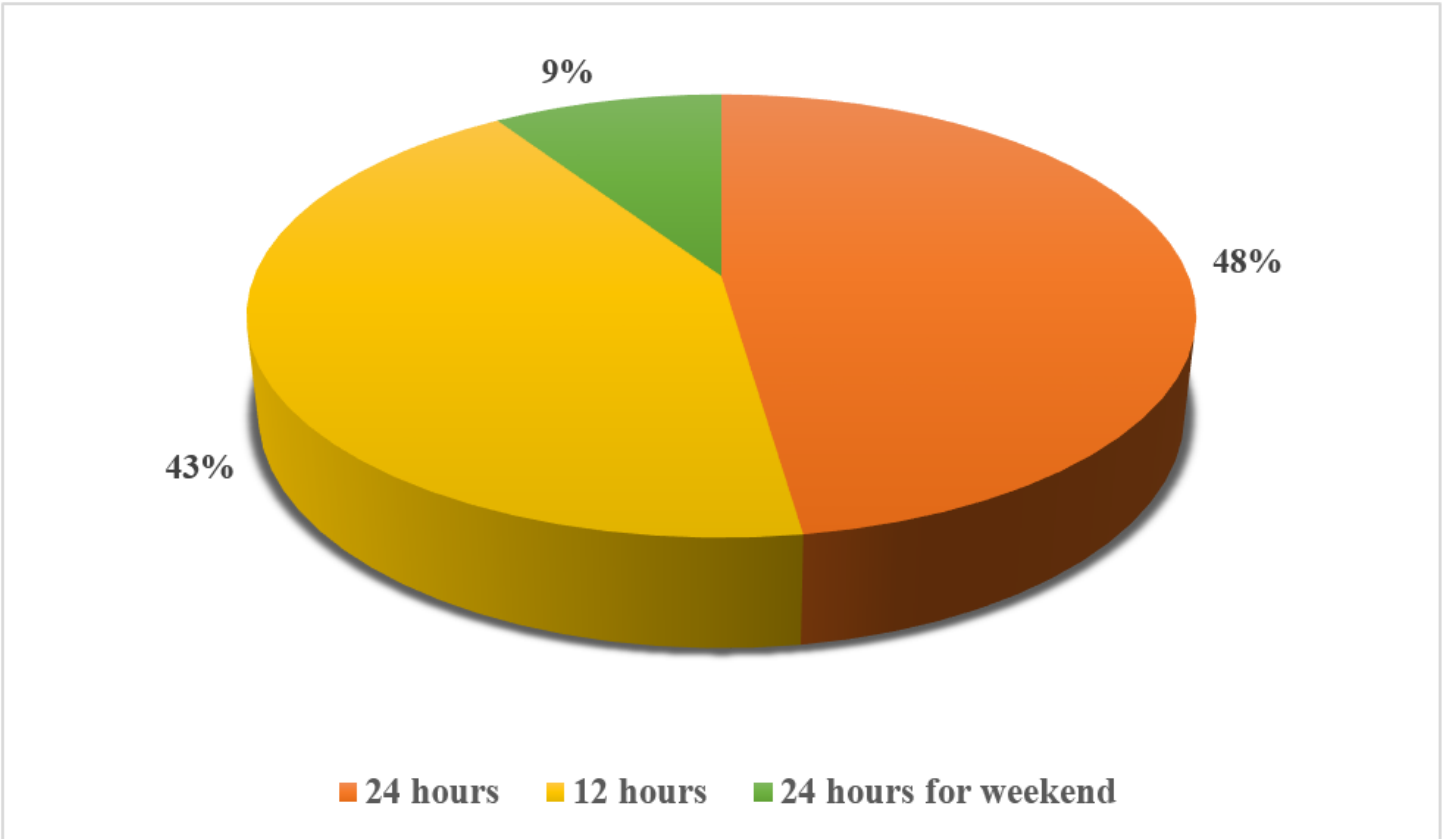


Figure 4

Distribution of medical interns according to the duration of their night shift (n=102)

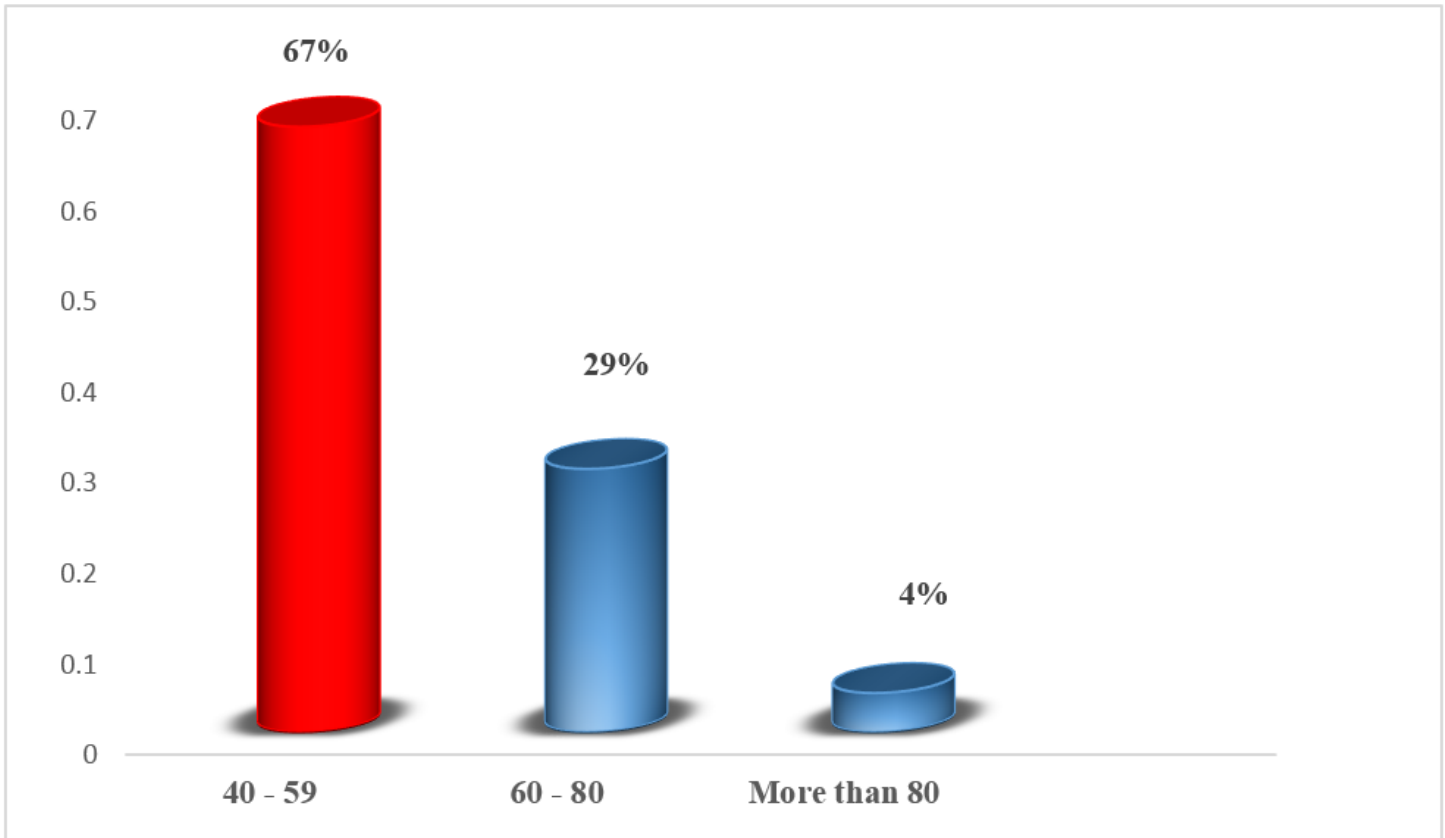


Figure 5

Distribution of medical interns according to the number of work hours per week (n=102)

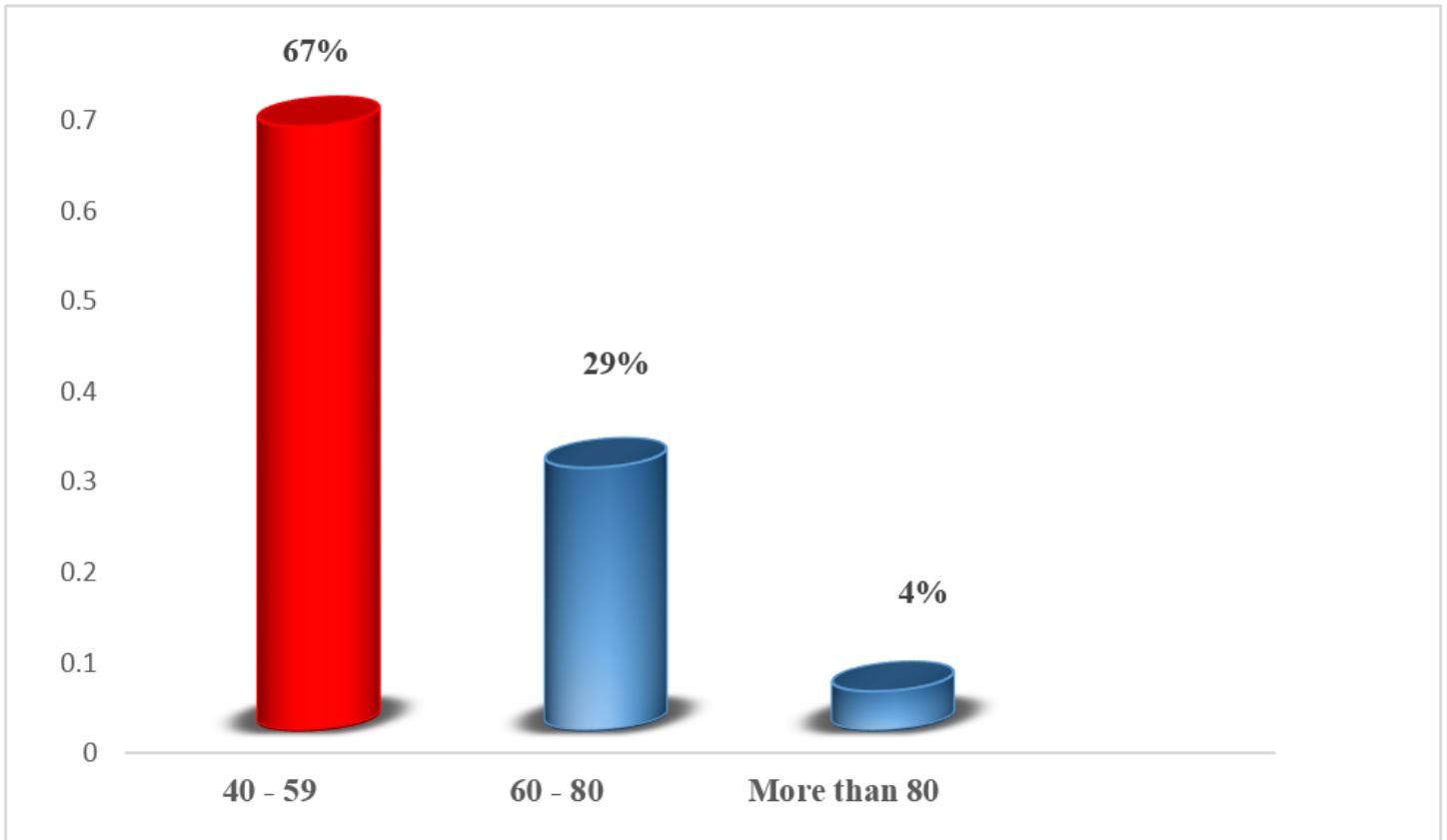


Figure 5

Distribution of medical interns according to the number of work hours per week (n=102)