



POSITIVE ASPECTS OF USING PROTOCOLS IN INTENSIVE CARE UNITS IN ALL UNIVERSITY HOSPITALS IN PLOVDIV, BULGARIA

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SUMMARY

Purpose: The development of protocols for the work of nurses, aims to assess the activities carried out by the nurses, who do not have experience working in Intensive Care Units (ICUs). We wanted to study the protocols' effectiveness and all the benefits for the organization of the working process.

Materials and methods: The study has covered 129 nurses, working in ICUs at the fifth University Multifunctional Hospital for Active Treatment (UMHAT) in the city of Plovdiv: "St. George"; "Kaspella", "Plovdiv", "Pulmed", "Eurohospital". The study was conducted in January 2014 - February 2016, via anonymous direct individual survey, which had been designed for that purpose. Data has been analyzed by using statistic programme version SPSS 21.0.

Results: The study shows that 94 (52.80% ± 3.74) of the respondents considered the use of protocols as one of the ways for limitation costs of the clinic, the other 42 (23.60% ± 3.18) responding with full agreement statement. On the other hand, protocols used as algorithms allows a faster and more efficient process of healing according to 57 (32.02% ± 3.50) of the respondents, the other 113 (63.50% ± 3.61) have rather positive opinion. More than half 97 (54.50% ± 3.73) nurses, who are working in ICUs, believe that the use of protocols contributes to the prevention of adverse drug reactions, other 41 (23% ± 3.15) being fully convinced about this.

Conclusion: The contribution of protocols to patients' hospitalization, the more efficient organization of nursing activities, better communication among workers, as well as the active exchange of knowledge and experience between them, are positive for the quality of care, provided in ICUs.

Keywords: Protocols, Health care, Intensive Care Units (ICUs), Nurses,

INTRODUCTION

Intensive care units have been provided cares at different levels of support for intensive patients [1, 2]. To provide patient access to this highly specialized cares, the "Critical care without walls" or "Intensive Care without Borders" theory has been emerged, which is part of the

idea of †reanimation nurses offering highly specialized cares and support. The development of protocols for the work of nurses, aims to facilitate their day-to-day activities, improving the outcomes and safety of patients and all staff [3, 4, 5]. Following this concept, the role of intensive cares has been rapidly expanded over the last 20 years [5]. The performance of nurses, as an integral part of multidisciplinary teams in ICU^s, is evidence that mortality and morbidity can be prevented, thanks to the early recognition of patient` deterioration and rapid resuscitation [6, 7, 8].

Aim

The development of protocols for the work of nurses aims to facilitate their day-to-day activities, improving the outcomes and safety of patients and all staff. We wanted to study their effectiveness and the benefits for the organization of the working process. It is important to assess the activities, carried out by the nurses, who are working in Intensive Care Units (ICUs). We wanted to study their effectiveness and all the benefits for the organization of the working process.

MATERIALS AND METHODS

The study has covered 129 nurses, working in Intensive Care Units (ICUs) at the fifth University Multifunctional Hospital for Active Treatment (UMHAT) in the city of Plovdiv: "St. George"; "Kaspella", "Plovdiv", "Pulmed", "Eurohospital". The study was conducted in January 2014 - February 2016, via anonymous direct individual survey, which had been designed for that purpose. Data has been analysed by using the software package SPSS v. 21.0 and graphics have been prepared by using the program Microsoft Excel '13.

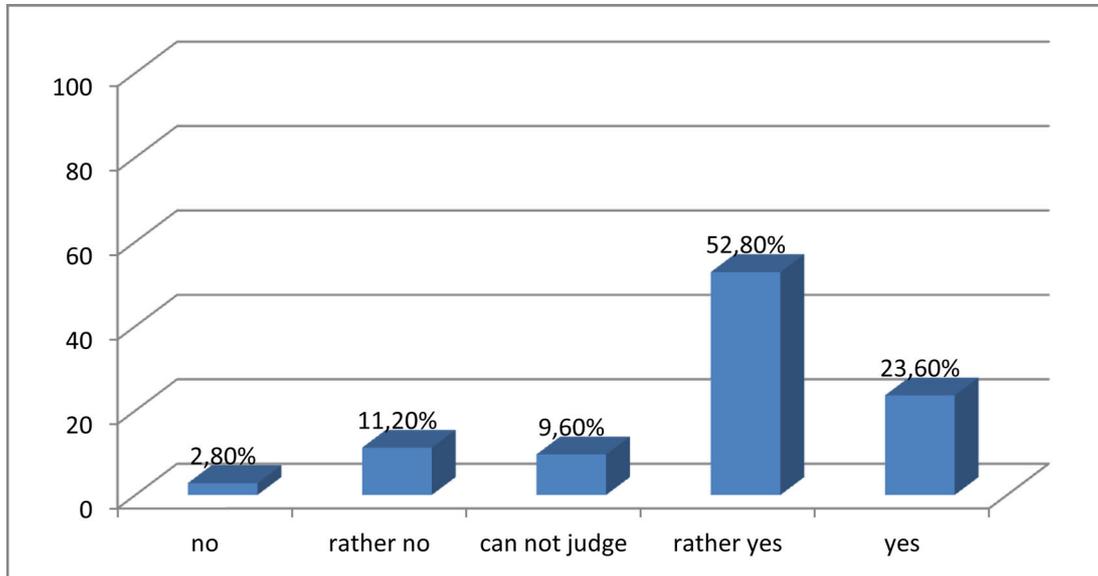
RESULTS

The study shows that 94 (52.80% ± 3.74) of the respondents considered the use of protocols as one of the ways for limitation costs of the clinic, the other 42 (23.60% ± 3.18) responding with full agreement statement. About 20 (11.20% ± 2.37) of respondents felt hat this was impossible and 5 (2.81% ± 1.24) gave a completely negative response to that statement. A part 17 (9.60% ± 2.20) of nurses believe that the answer to the

question is not within their competence, and they can not judge this (Fig. 1). There is a difference between medical professionals from different age groups. Positive attitudes to the usage of clinical protocols have respondents of all

age groups, with a small proportion of respondents aged 40 - 50 years of age being the opposite $p=0.000$ ($\chi^2=27.51$, $df=2$).

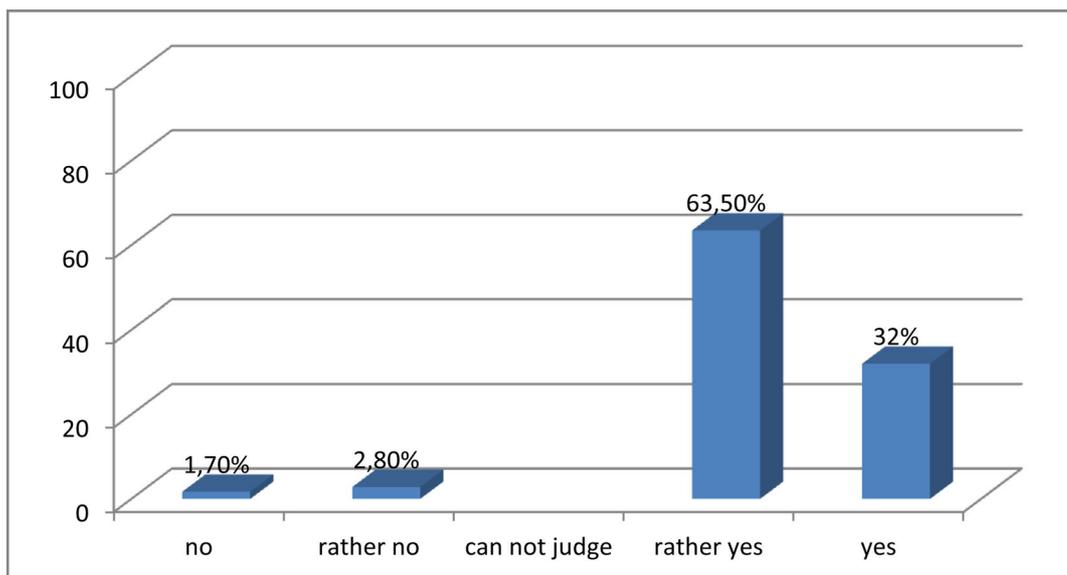
Fig. 1. The distribution of respondents to the claim that the use of clinical protocols limits the costs of Intensive Care Units (ICUs).



On the other hand, protocols used as algorithms allows a faster and more efficient process of healing according to 57 (32.02% \pm 3.50) of the respondents, the other 113 (63.50% \pm 3.61) have rather positive opinion. About 3 (1.70% \pm 0.79) of the respondents responded with "rather no", and 5 (2.80% \pm 1.24) of them could not de-

cide (Fig. 2). Nurses, aged 30 - 40 years, have indicated their positive opinion on the claim, that protocols could contribute a faster healing process of patients in ICUs $p = 0.013$ ($\chi^2 = 8.67$, $df = 2$). The youngest of the respondents are definite about this.

Fig. 2. The distribution of respondents to the claim, that the use of clinical protocols contributes to the faster treatment of patients in Intensive Care Units (ICUs).



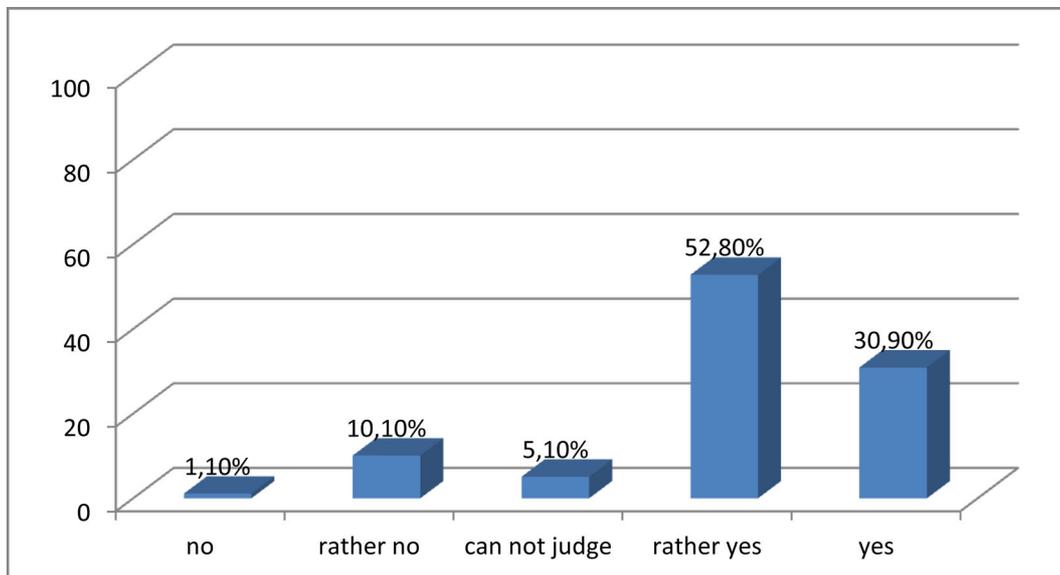
A majority of 94 (52.80% \pm 3.74) of those, who participated in the study, believed that the use of protocols contributed to the removal of errors in administrating the

medication therapy of the patients. A large proportion 55 (30.90% \pm 3.46) gave an entirely positive response to the claim, with the remaining 9 (5.10% \pm 1.64) not able to

judge this. Not a small percentage 18 (10.10% ± 2.26) are on the opinion, that there will be no such difference and only 2 (1.10% ± 0.79) of them strongly believe, that the protocols have no influence on the usage of drug therapy

(Fig. 3). The nurses from the groups (40 - 50) and (50 - 60) have indicated, that usage of protocols helps prevention of medication in ICUs $p = 0.000$ ($\chi^2=22.03$, $df=2$).

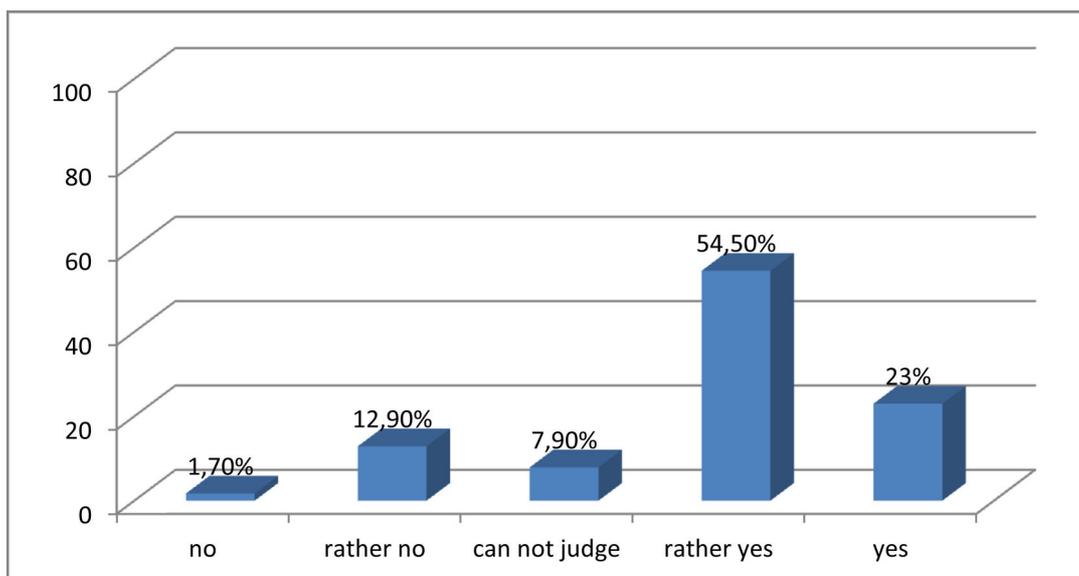
Fig. 3. Distribution of respondents to the claim that the use of protocols contributes to the removal of medication mistakes in ICUs.



More than half 97 (54.50% ± 3.73) nurses, who are working in ICUs, believe that the use of protocols contributes to the prevention of adverse drug reactions, other 41 (23% ± 3.15) being fully convinced about this. An important part is the proportion of respondents 23 (12.90% ± 2.51), according to whom the use of protocols would rather not have influence over the process, and 14 (7.9%

± 2.02) from the nurses can not answer. With categorically no have answered 3 (1.7% ± 0.97), showed on (Fig. 4). Nurses from all groups indicated their positive opinion, that protocols also contributed to easier monitoring of patients and the prevention of complications $p = 0.002$ ($\chi^2=12.94$, $df=2$).

Fig. 4. The distribution of respondents to the claim that the use of protocols contributes to the faster recognition of complications.



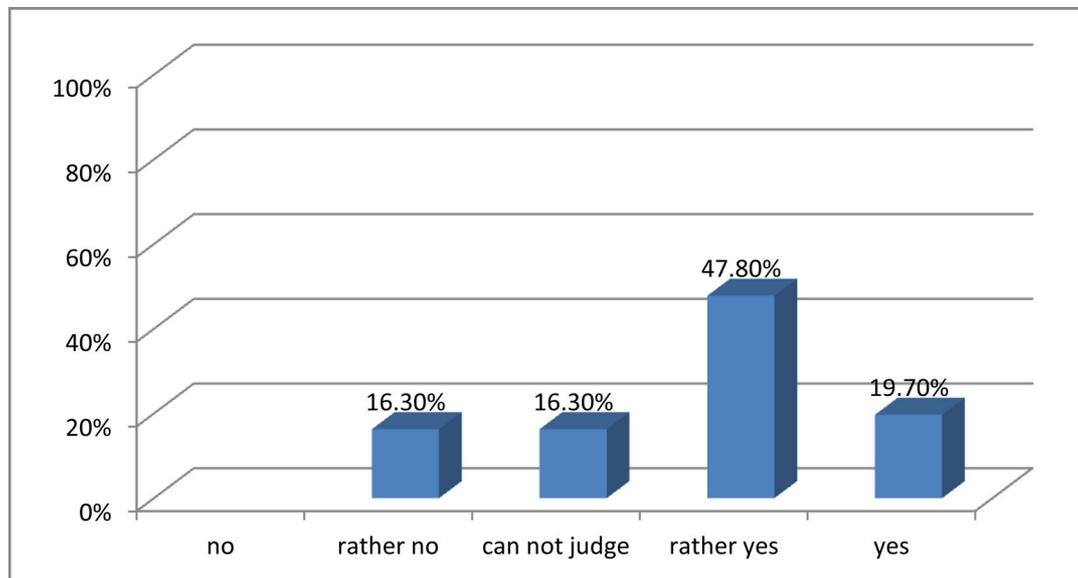
According to 85 (47.80% ± 3.74) of the respondents, the protocols can be a mean of preventing harm to

the patients. A significant proportion of 35 (19.70% ± 2.98) gave a fully positive response to this assertion, other

29 (16.30% ± 2.77) of respondents not being able to judge. The same is the percentage of 29 (16.30% ± 2.77) of nurses, who give their negative opinion on the issue

(Fig. 5). The nurses' opinion is similar in terms of preventing mistakes in the day-to-day activities in ICUs $p = 0.001$ ($\chi^2=14.54$, $df=2$).

Fig. 5. Distribution of respondents to the claim that the use of protocols prevents gaps during the shift in ICUs.



According to the study 98 (55.10% ± 3.73) thinks, that the use of the protocols does not cause any confusion to the medical staff, but rather serves to fulfill their daily duties. The share of respondents, who have answered with "rather not" is 67 (37.6% ± 3.63). Only 11 (6.20% ± 1.81) are rather confused when they have to use them. Respondents from the four age groups are unanimous that the protocols do not cause confusion in their everyday work. Nurses approved the prepared protocols and had no difficulty in using them $p = 0.184$ ($\chi^2=3.38$, $df=2$).

The usage of protocols is one of the successful methods of work and training for medical specialists according to 122 (68.50% ± 3.48) of the respondents. The remaining 51 (28.70% ± 3.39) had a rather positive opinion on this issue. There was a small percentage of respondents with "rather not" and "can not judge" answers, respectively 2 (1.10% ± 0.78) and 3 (1.70% ± 0.97) respectively. All interviewees are on the opinion that using protocols is a successful method of work in ICUs, aged between 30 and 40 years old $p = 0.220$ ($\chi^2=3.03$, $df=2$).

The application of protocols, according to 91 (51.10% ± 3.75), leads to improvement of their work, as members of Multifunctional Team (MT). The remaining 78 (43.80% ± 3.72) of them support this claim. Also, they think that protocols improve the quality of work. The youngest and oldest nurses, responded with a rather positive answers $p = 0.049$ ($\chi^2=6.01$, $df=2$). In conclusion, we can say, that regard to the contribution of cares' quality, nurses from all age groups are in favor.

DISCUSSION

Workers in the USA and Europe believe that nursing activities related to the care of seriously ill patients should always follow a certain protocols to prevent mistakes, as well as minimize complications for the patient [6, 9, 7]. Some data suggest that the use of health care protocols is associated with improved patient outcomes, especially in times of sedation and mechanical ventilation [10, 11, 12]. As a result, many international, professional societies encourage the use of clinical protocols in their campaigns to improve the quality of intensive cares [13].

In the world, the continuous interaction between the medical specialists working in ICUs, who are part of the Multifunctional teams, has proven a positive effect on the treating process of the intensive patients [7, 8]. The lack of good communication between the team members can lead to a repetition of treatment - diagnostic procedures, mistakes and omissions in the complex treatment of patients. The results show the benefits of protocols according to medical specialists in ICUs, namely efficiency, consistency, safety and accuracy. It is important to highlight the impact of protocols on the continuity between nurses with different occupational experience in ICUs.

CONCLUSION

Throughout their professional life, nurses must maintain and update their professional knowledge and skills. In particular, they must engage in various educa-

tional activities, such as continuing medical training, which lead to the maintenance and further development of their competence, the increase of their autonomous role in practice and professional expression. The work and positive attitude of medical specialists, who work in ICUs about the usage of clinical protocols have shown, their important impact over the working process. Nurses should be more active in monitoring, maintaining and improving the quality of all medical activities they carry out. This requires the usage of guidelines for good medical practice, as well as the establishment at the national and

regional level of healthcare. The contribution of protocols to patients' hospitalization, the more efficient organization of nursing activities, better communication among workers, as well as the active exchange of knowledge and experience between them, are positive for the quality of cares, provided in ICUs.

Conflicts of interest:

There is no additional financing or conflict of interest at the realization of this scientific work.

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