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**SCIENCE, INNOVATIONS AND  
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AND PROSPECTS**



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# **SCIENCE, INNOVATIONS AND EDUCATION: PROBLEMS AND PROSPECTS**

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# PHARMACEUTICAL SCIENCES

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## PRICE OF PULSE OXIMETERS BOUGHT BY THE STUDENTS OF PHARMACY FACULTY

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**Introduction.** In Ukraine, coronavirus infection Covid-19 was firstly diagnosed on March 3, 2020 in Chernivtsi [1]. On March 13, 2020, the first fatal outcome was recorded. Up to date January 20, 2022 there were reported 3,799,382 infected, of which 98,843 died [2].

**Aim.** The analysis of pulse oximeter pharmaceutical market situation [3] to prevent the Covid-19 consequences using pulse oximeters is still strongly relevant.

**Materials and methods.** A survey among 170 students of the Pharmaceutical Faculty of Zaporizhzhia State Medical University (Ukraine) about their purchase history (2018-2021) of pulse oximeters was conducted. Data was summarized and analyzed using the Statistical Package for the Social Sciences software (IBM SPSS for Windows, v.26.0, Inc, Chicago, IL).

**Results and discussion.** It turned out that among the 170 participants, only 77 people purchased various models. As can be seen from Table 1, the age of the students surveyed ranged from 19 to 48 years. However, the majority were aged 19-23 (136), of which the maximum number of purchases was made by people aged 20-23 (59). The minimum reported price was UAH 200 and the maximum - UAH 1200.

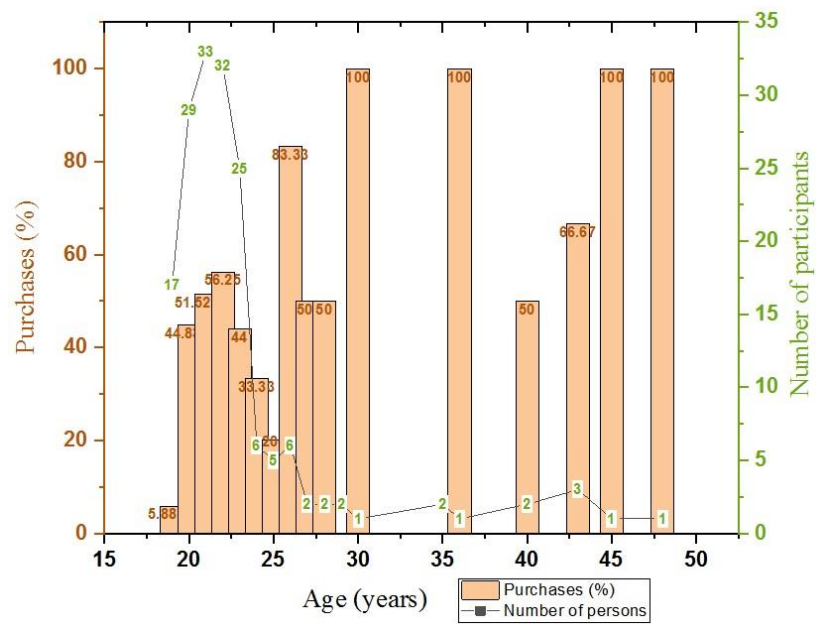
**Table 1****Calculated statistical descriptives**

Age, years	N of all	N of buyers	Mean price (UAH)	Std. Dev.	Std. Error	95% Confidence Interval for Mean		Min. price (UAH)	Max. price (UAH)
						Lower	Upper		
19	17	1	250.00					250	250
20	29	13	369.23	211.678	58.709	241.31	497.15	100	800
21	33	17	525.88	237.857	57.689	403.59	648.18	100	900
22	32	18	474.44	173.823	40.970	388.00	560.88	100	800
23	25	11	577.18	315.603	95.158	365.16	789.21	250	1200
24	6	2	525.00	388.909	275.000	-2969.21	4019.21	250	800
25	5	1	599.00					599	599
26	6	5	600.00	374.166	167.332	135.41	1064.59	300	1100
27	2	1	300.00					300	300
28	2	1	1000.00					1000	1000
29	2								
30	1	1	550.00					550	550
35	2								
36	1	1	400.00					400	400
40	2	1	287.00					287	287
43	3	2	250.00	0.000	0.000	250.00	250.00	250	250
45	1	1	350.00					350	350
48	1	1	200.00					200	200
Σ	170	77	482.01	247.589	28.215	425.82	538.21	100	1200

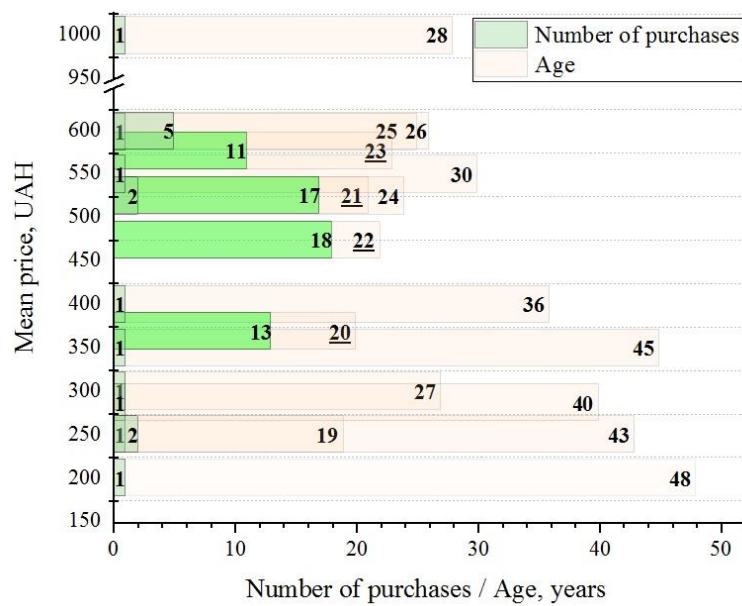
When analyzing the percentage ratio of the purchases (Fig. 1), 44.83% - 56.25% were made by students of the minimum age, and 66.67 - 100% by the oldest, although they were represented only by few persons. Notably, students majorly from the older generation (48, 43, 40, 27, 45 years old) bought pulse oximeters for the minimum price (UAH 200 - 350) (Fig. 1).

The maximum number (41 pieces) was purchased at the age of 20-23 for an average of UAH 486.68 (Table 1, Fig. 2).

And in the more average age (25, 26 and 28 years old) - for the maximum price of UAH 600 – 1000, but only in 3 cases.



**Fig. 1. Percentage of purchases and age of all participants**



**Fig 2. The average price of pulse oximeters and the number of purchases done (aged with maximum ones are underlined)**

**Conclusions:** So, pulse oximeters costing from UAH 350 to UAH 600 are the most popular. And older customers are more likely to buy them, but at a lower price. It should also be taken into account that the survey was conducted among students of the Faculty of Pharmacy, who are better aware of the dangers of neglecting Covid-19, than people in other professions. Research is ongoing.

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