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# MEDICINES AND DIETARY SUPPLEMENTS PURCHASED OUTSIDE THE TRADITIONAL SUPPLY CHAIN RAISE PATIENT SAFETY CONCERNS IN HOSPITAL AND CLINICAL SETTINGS

## ● BACKGROUND

The growing market of online pharmacies has caused numerous patient- and medication safety concerns for health systems. Our previous study in 2013 showed that a high rate of Hungarian hospital patients (8.4%) ordered drugs or dietary supplements online.

## ● PURPOSE

A complex methodology called Risk Based Safety Mapping of Online Pharmaceutical Market has been developed to evaluate patient safety threats. The aim of our current study is to evaluate actual patient safety risk in outpatient setting and integrate this data into this methodology.

## ● MATERIALS AND METHODS

A Hungarian survey questionnaire was developed for this study after the completion of a pilot study (n=100). Data were collected directly from Hungarian citizens from Southern Transdanubian region who use outpatient health service for chronic or acute conditions. Five sections covered the 28 item questionnaire: (1) Medicine purchase; (2) Online medicine purchase experiences, attitude; (3) Internet use; (4) Health state and medications; (5) Demographics. Study protocol was approved by the Regional Committee for the Research Ethics (approval number: 6835).

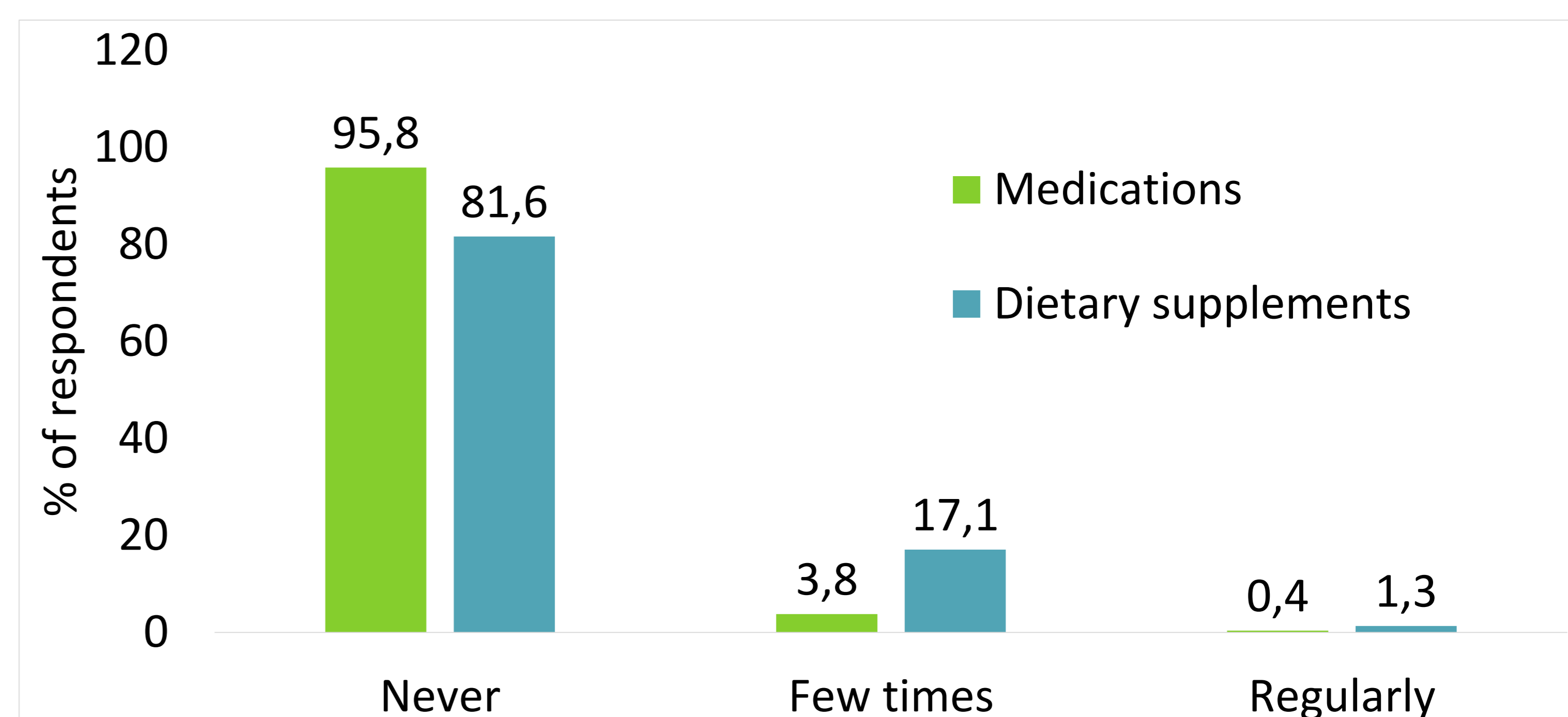
## ● RESULTS

The sample of the present study consisted of 1055 participants, 456 (43,2%) responders reported to have chronic health conditions. The correspondence of factors of internet usage and online drug purchase was examined. The attitude reactions about the online medicine purchase was weighted and a relative attitude rate was computed. (Mean= -0,37 SD=1,2) There is a weak still significant tendency toward rejection. According to our model the time spent on the internet predicts the willingness of online purchase in general ( $R^2= 0,41$ ) and tendency of online self-diagnosis ( $R^2= 0,29$ ). Online self-diagnosis predicts willingness of independent medication ( $R^2= 0,24$ ). The three factors of relative attitude, general online purchase and independent medication explains 36% of the variance of tendency to purchase drugs online.

## Respondent characteristics

Variable	Value
Number of participants (outpatients)	1055
Age (years) $\pm$ SD; min. – max.	45,08 $\pm$ 17,36; 16 - 89
Gender	516 male, 539 female
Regular medications (no $\pm$ SD); min.– max.	1,55 $\pm$ 2,63; 0 - 25
Frequency of Internet use	
Daily	737 (69,9%)
Weekly	150 (14,2%)
Never	168 (15,2%)
Frequency of online shopping	
Regularly	203 (19,2%)
A few times	515 (48,9%)
Never	337 (31,9%)

## Answers for questions „How many times have you used the Internet to purchase medications / supplements online?”



## ● CONCLUSIONS

There is an increasing risk of patients consuming dietary supplements or potentially counterfeit medications purchased over the Internet. Targeted interventions by clinical pharmacists (medication reconciliation, standardized purchasing policies) are the main prevention strategies.



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