Prevalence of self-medication in university students: systematic review and meta-analysis

Meysam Behzadifar,[1] Masoud Behzadifar,[2] Aidin Aryankhesal,[3] Hamid Ravaghi,[3] Hamid Reza Baradaran,[4] Haniye Sadat Sajadi,[5] Mojtaba Khaksarian[6] and Nicola Luigi Bragazzi[7]

[1]Social Determinants of Health Research Center, Lorestan University of Medical Sciences, Khorramabad, Islamic Republic of Iran. [2]Health Management and Economics Research Center, Iran University of Medical Sciences, Tehran, Islamic Republic of Iran. [3]Department of Health Services Management, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Islamic Republic of Iran. [4]Endocrine Research Center, Institute of Endocrinology and Metabolism, Iran University of Medical Sciences, Tehran, Islamic Republic of Iran. [5]National Institute for Health Research, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran. [6]Department of Physiology, School of Medicine, Lorestan University of Medical Sciences, Khorramabad, Islamic Republic of Iran. [7]School of Public Health, Department of Health Sciences (DISSAL), University of Genoa, Genoa, Italy. (Correspondence to: Masoud Behzadifar: masoudbehzadifar@gmail.com).

Abstract

Background: Self-medication can lead to serious consequences but its overall prevalence in students is not known.

Aims: The aim of this study was to determine the prevalence of self-medication in students through a systematic review and meta-analysis of studies on the prevalence of self-medication in students across the world.

Methods: PubMed/MEDLINE, EMBASE, ISI/Web of Science and Google Scholar were searched up to October 2017. Studies reporting the prevalence of self-treatment in university students were selected. Data recorded included year of publication, country where the study was conducted, sample size, prevalence of self-medication, sex and mean age of students, and faculty of students (medical or non-medical). A random-effect model was used to determine effect size with a 95% confidence interval (CI). Heterogeneity across studies was assessed with the I^2 test. A sensitivity analysis assessed stability of the findings.

Results: A total of 89 studies were included in the analysis, which comprised 60 938 students. The overall prevalence of self-medication in university students was 70.1% (95% CI: 64.3–75.4%). Female students self-medicated more often than male students: odds ratio = 1.45 (95% CI%: 1.17–1.79). The prevalence of self-medication in medical students (97.2%) was higher than in non-medical students (44.7%). The I^2 test indicated high, statistically significant heterogeneity. The sensitivity analysis showed that the results were stable.

Conclusion: The prevalence of self-medication among students worldwide is high. Programmes on the risks of self-medication and increasing control and monitoring of the sale of drugs are recommended. Facilitating students' access to doctors and health centres could reduce self-medication in students.

Keywords: self-medication, students, prevalence, meta-analysis

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Introduction

Self-medication is the self-administration of a treatment (either pharmacological or behavioural) without a prescription from a physician or a caregiver (*1*). Self-medication is an umbrella term, which includes a variety of behaviours, ranging from self-care to disease prevention and disease management. As such, self-medication is not limited to drug intake, but includes also interventions aimed at modifying lifestyle (*2*). Self-medication is occurring increasingly and is a serious public health concern, both in developing and developed countries (*3*). Self-medication can lead to serious consequences such as delay in diagnosis of illness, drug resistance, development of co-morbidities and, in some cases, death (*4,5*).

The number of people reported to self-medicate varies greatly depending on the country in which a study has been conducted and the study design. For instance, in the United States of America (USA) in a period of 6 months, about 71% of men and 82% of women had self-medicated at least once (*6*). In the United Kingdom of Great Britain and Northern Ireland, 41.5% of people had used drugs without a doctor's prescription (*7*). In Spain, 27% of people suffering from pain self-medicated (*8*). The rise in the prevalence of self-medication is a serious issue for health decision-makers and policy-makers. This increase could be due to higher costs of consulting a doctor, greater availability of drugs and easier access to medications, lack of access to health care facilities and services, and patients' experiences of previous treatments (*9*).

Determinants of self-medication include the type of physical/psychological illness, the social, cultural and economic status of the patients, and the national laws regulating drug use and sales (*10–13*). Self-medication may also have its root in the illegal sale of medicines (*14*).

Young people are among the most vulnerable to self-medication. In particular, students, because of their higher educational level and ability to find information about

medications through the Internet, are more likely to self-medicate (*15,16*). A precise and reliable estimate of the self-medication rate is important for health decision-makers and policy-makers so they can design and implement programmes aimed at preventing self-medication. Therefore, we aimed to investigate the prevalence of self-medication in university students worldwide through a systematic review and meta-analysis of studies published on self-medication in students.

Methods

We did a two-stage literature search in order to identify the relevant studies. In the first stage, scholarly electronic databases, namely PubMed/MEDLINE via Ovid, EMBASE, ISI/Web of Science and Google Scholar, were searched up to November 2017 using Boolean operators and Medical Subject Headings (MeSH) where appropriate, and restricting the search to articles with full text and/or abstract published in English. The full texts of papers written in languages other than English, were translated by professional translators. The search strategy was as follows: ("prevalence" OR "epidemiology" OR "frequency") AND ("self-medication" OR "self-administration" OR "self-care" OR "illicit use" OR "self-prescription" OR "without doctor's prescription") AND ("university students" OR "medical students" OR "college students" OR "undergraduates").

In the second stage, we also checked the reference lists of the studies retrieved for possible relevant related studies. We included studies that reported the prevalence of self-treatment in students, or those that had the necessary data for calculation of the prevalence. We excluded letters to editor, reviews, case reports or case series, interventional studies, conference proceeding or studies with no available full text. After identification of relevant studies, we examined their titles and abstracts for inclusion based on the above-mentioned inclusion and exclusion criteria. Then, two authors independently reviewed the full text of the articles and extracted the relevant information: surname of first author, year of publication, country where the study was conducted, and then information about the participants including sample size, reported prevalence of self-medication, average age and sex, and type of university where the students studied. If there was disagreement between the reviewers, a third reviewer was consulted as the final referee.

We used the Hoy checklist for evaluation of research quality (risk of bias) for critical appraisal of studies retained in the meta-analysis (*17*). The checklist includes 10 items, the first four investigate external validity of the studies and the remaining ones relate to internal validity.

To calculate the overall prevalence, we used a random-effect model, computing effect sizes with a 95% confidence interval of (CI). We examined heterogeneity across studies using the I^2 test (*18*). To investigate the effect of the different variables on heterogeneity, we did a subgroup analysis stratifying participants by income (based on the country in which the study was carried out and retrieved from the World Bank website), region of the study, type of student (medical or non-medical), sample size, study quality and publication year. To assess the stability of the findings, we did a sensitivity analysis examining the effect of removing studies one at a time on the overall outcome (prevalence). To assess publication bias, we used the Egger linear regression test (*19*). Furthermore, we did a meta-regression analysis to assess the role of year of publication, sample size and mean age of the participants of the included studies: we used these parameters as co-variates, while the dependent variable was the effect size of the studies.

We used Comprehensive Meta-Analysis, version 2.0 (CMA v2.0, Biostat, New Jersey, USA) software for all statistical analyses.

Results

We report our results according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines (*20*).

We initially retrieved 519 studies: 438 were found through database searching and 81 through additional sources. After removing duplicates, the titles and abstracts of 341 articles were examined. After screening the remaining studies based on the inclusion and exclusion criteria, we excluded 135 articles. We then reviewed the full text of the remaining 206 articles for eligibility, after which we excluded 117 studies with reason (not being relevant to the aim of our systematic review and meta-analysis and/or not providing sufficiently detailed information). We thus retained 89 studies in the final analysis. Figure 1 and Table 1 show the process of study selection and the main characteristics of the studies included, respectively.

The total sample size analysed comprised 60 938 students (*21–109*). Studies were published between 1995 and 2017, the mean age of the students ranged from 17 to 26 years, and sample sizes from 120 to 9161 participants. Thirty-seven (41.6%) studies recruited ≤ 400 participants, while 52 (58.4%) had > 400 participants. As regards region where the studies were done, 54 (60.7%) studies were done in Asia, 14 (15.7%) in Africa, 11 (12.4%) in South America, 7 (7.9%) in Europe, 2 (2.2%) in the USA, and 1 (1.1%) in Australia. Most studies (62, 69.7%) were done in middle-income countries, 19 (21.3%) in high-income countries and 8 (9.0%) in low-income countries. Forty-six (51.7%) studies explored self-medication in medical students, and 25 in non-medical students; information on students' faculty was not provided in the 18 remaining studies. As regards study quality, 52 (58.4%) articles were judged of high (score 16–22) quality, 28 (31.5%) of medium (7–15) quality and 9 (10.1%) of low (1 to 6) quality.

The overall prevalence of self-medication in university students was 70.1% (95% CI: 64.3–75.4), ranging from 7.9% to 99%, as shown in the forest plot (Figure 2, available online). The I^2 test revealed a high, statistically significant heterogeneity of 99.39%.

Table 1 Main characteristics of the studies included

First author (Reference)	Year	Country	Mean age of students (SD), years	Sample size	Reported prevalence of self-medication %	Study quality score
Lau (21)	1995	China, Hong Kong SAR	20.5 (SD 2.2)	563	94.0	7–15
Burak (22)	2000	USA	NA	471	89.0	16–22
Cabrita (23)	2004	Portugal	NA	1145	7.9	16–22
Aguado (24)	2005	Argentina	NA	216	85.0	7–15
McCabe (25)	2005	USA	NA	9161	NA	16–22
James (26)	2006	Bahrain	18.01 (SD 0.78)	134	44.8	7–15
Awad (27)	2007	Sudan	NA	1121	79.5	1–6
Castronuovo (28)	2007	Argentina	NA	462	95.0	16–22
Hussain (29)	2008	Pakistan	NA	200	42.0	7–15
Sawalha (30)	2008	Palestine	20 (SD 1.7)	1581	66.1	7–15
Zafar (31)	2008	Pakistan	21 (SD 1.8)	572	76.0	1–6
Sawalha (32)	2008	Palestine	19.9 (SD 1.7)	1581	98.0	7–15
Sarahroodi (33)	2009	Iran (IR)	NA	160	53.0	1–6
Abay (34)	2010	Ethiopia	NA	213	38.5	7–15
de Aquino (35)	2010	Brazil	NA	223	65.5	16–22
Marine (36)	2010	Argentina	NA	5170	50.1	16–22
Sapkota (37)	2010	Nigeria	NA	706	24.0	7–15
Sarahroodi (38)	2010	Iran (IR)	21.5 (SD 0.25)	195	NA	16–22
Verma (39)	2010	India	20.13 (SD 2.32)	1022	87.0	7–15
Chowdhury (40)	2011	Bangladesh	NA	1107	16.0	7–15
El Ezz (41)	2011	Egypt	19.1 (SD 1.5)	300	55.0	7–15
Gutema (42)	2011	Ethiopia	21.5	148	43.2	7–15
Klemenc-Ketis (43)	2011	Slovenia	NA	410	94.9	16–22
Klemenc-Ketis (44)	2011	Slovenia	22.4 (SD 3.24)	1294	NA	16–22
Mumtaz (45)	2011	Pakistan	22	207	80.4	1–6
Souza (46)	2011	Brazil	21 (SD 1.95)	196	38.8	16–22
Auta (47)	2012	Nigeria	NA	188	53.2	1–6
Banerjee (48)	2012	India	21.03 (SD 4.82)	468	57.1	7–15
da Silva (49)	2012	Brazil	22 (SD 6.17)	789	86.4	16–22
da Silva (50)	2012	Brazil	21.5	200	92.0	16–22
Donkor (51)	2012	Ghana	NA	600	70.0	7–15
Galato (52)	2012	Brazil	22.9 (SD 4.2)	342	37.0	7–15
Ibrahim (53)	2012	United Arab Emirates	19.5 (SD 2.4)	169	86.0	16–22
Murtaza (54)	2012	Pakistan	NA	450	78.7	16–22
Osemene (55)	2012	Nigeria	NA	2000	NA	7–15
Pan (56)	2012	China	NA	1300	47.8	16–22
Suaifan (57)	2012	Jordan	NA	570	NA	16–22
Tabiei (58)	2012	Iran (IR)	NA	1048	86.7	16–22
Angamo (59)	2012	Ethiopia	18–24	403	45.9	16–22
Betancourt (60)	2013	Puerto Rico	NA	275	27.6	1–6
Imtiaz (61)	2013	Pakistan	NA	300	83.0	7–15
Kumar (62)	2013	India	20.3 (SD 61.5)	440	78.6	16–22
Purreza (63)	2013	Iran (IR)	NA	600	35.7	16–22
Ullah (64)	2013	Pakistan	NA	256	95.5	16–22
Al Hussaini (65)	2014	Kuwait	NA	837	97.8	1–6
Brlic (66)	2014	Croatia	NA	389	NA	16–22
Damian (67)	2014	Romania	NA	281	41.0	16–22
Flaiti (68)	2014	Oman	22.3	450	36.7	16–22
Ghafouri (69)	2014	Iran (IR)	22.84 (SD 4.19	590	41.9	7–15
Lukovic (70)	2014	Serbia	NA	1295	79.9	16–22

Table 1 Main characteristics of the studies included *(concluded)*

First author (Reference)	Year	Country	Mean age of students (SD), years	Sample size	Reported prevalence of self-medication %	Study quality score
Lv (71)	2014	China	NA	731	40.2	16–22
Martinez (72)	2014	Brazil	22.09 (SD 9.94)	498	NA	16–22
Pirzadeh (73)	2014	Iran (IR)	22.00 (SD 2.77)	197	85.0	16–22
Saeed (74)	2014	Saudi Arabia	21.95 (SD 3.43)	354	86.2	16–22
Shah (75)	2014	Pakistan	20.04 (SD 1.74)	431	47.6	7–15
Sharif (76)	2014	United Arab Emirates	20.4 (SD 2.6)	200	59.0	7–15
Patil (77)	2014	India	20.4 (SD 1.22	440	88.2	16–22
Alam (78)	2015	Bangladesh	NA	500	NA	7–15
Chiribagula (79)	2015	Democratic Republic of the Congo	23	510	99.0	16–22
Ghaieth (80)	2015	Libya	NA	363	NA	7–15
Gholipour (81)	2015	Iran (IR)	NA	320	48.0	16–22
Gunawardhana (82)	2015	Sri Lanka	NA	175	85.1	1–6
Ibrahim (83)	2015	Saudi Arabia	NA	504	NA	16–22
Sharma (84)	2015	India	NA	624	NA	7–15
Aashi (85)	2016	Saudi Arabia	NA	507	74.0	16–22
Ahamdi (86)	2016	Iran (IR)	21.63 (SD 1.92)	364	33.7	16–22
Albasheer (87)	2016	Saudi Arabia	NA	300	87.0	16–22
Ali (88)	2016	Pakistan	23.5 (SD 3.6)	150	52.7	16–22
Alkhatatbeh (89)	2016	Jordan	NA	1317	78.5	16–22
Banerjee (90)	2016	Nepal	NA	488	81.4	16–22
Birru (91)	2016	Ethiopia	21 (SD 1.61)	464	77.6	16–22
Ibrahim (92)	2016	Malaysia	22 (SD 1.7)	363	46.6	7–15
Iuras (93)	2016	Brazil	NA	180	89.0	1–6
Jamshed (94)	2016	Malaysia	19.55 (SD 1.761	461	57.2	16–22
Jimenez-Nunez (95)	2016	Spain	NA	249	72.7	16–22
Johnson (96)	2016	India	17–26	736	NA	16–22
Juibari (97)	2016	Iran (IR)	21.01 (SD 1.46)	175	45.7	16–22
Kumar (98)	2016	India	NA	664	NA	16–22
Morowatisharifabad (99)	2016	Iran (IR)	21.9 (SD 2.41)	237	45.1	16–22
Noor (100)	2016	Pakistan	20.64 (SD 1.68)	413	96.9	7–15
Saleem (101)	2016	Pakistan	21.2 (SD 2.2)	380	NA	16–22
Williams (102)	2016	Australia	NA	120	91.7	16–22
Yadav (103)	2016	Nepal	NA	570	90.1	7–15
Zhu (104)	2016	China	21	660	47.9	16–22
Al-Ameri (105)	2017	Iraq	19.8 (SD 1.6)	1435	92.4	16–22
Gelayee (106)	2017	Ethiopia	21.26 (SD 1.76)	385	32.7	7–15
Haroun (107)	2017	Syrian Arab Republic	NA	436	NA	16–22
Helal (108)	2017	Egypt	20 (SD 0.7)	800	62.9	16–22
Jakaria (109)	2017	Bangladesh	NA	439	52.2	7–15

SD: standard deviation, SAR: Special Administrative, Region, USA: United States of America, NA: not available, IR: Islamic Republic of

Results of the subgroup analysis based on income level, geographical region, sample size, study quality, year of publication, type of students (medical or non-medical) and sex are shown in Table 2. Heterogeneity as assessed by the I^2 statistic was high, statistically significant for all these subgroup analyses and ranging from 87.77% to 99.89%. Stratifying according to the income level of the country in which the study was conducted, the prevalence of self-medication was 65% (95% CI: 44.8–80.9%), 71.8% (95% CI: 66.8–76.3%) and 67.2% (95% CI: 46.5–82.9%) in high-, middle- and low-income countries, respectively. Based on region, the highest prevalence of self-medication was 91.7% (95% CI: 85.2–95.5%) in Oceania and the lowest was 55.8% (95% CI: 28–80.4) in Europe. The prevalence of self-medication was higher in female students (76.6% (95% CI: 65.0–85.2%)) than male students (66.9% (95% CI: 56.4–75.9%)), and in medical students (97.2% (95% CI: 95.4–98.3%)) than non-medical students

Table 2 Results of subgroup analysis of self-medication in university students

Variable	No. studies	No. participants	Prevalence (95% CI), %	Q test	I^2, %	*P*-value
Income						
High	19	17 532	65.0 (44.8–80.9)	4976.93	99.63	< 0.001
Middle	62	40 225	71.8 (66.8–76.3)	5523.91	98.89	< 0.001
Low	8	3 181	67.2 (46.5–82.9)	1 006.87	99.30	< 0.001
Region						
Asia	54	29 371	71.7 (66.6–76.4)	4 082.90	98.70	< 0.001
Europe	7	5063	55.8 (28–80.4)	1 485.80	99.59	< 0.001
Americas	13	18 183	65 (38.8–84.5)	4 901.85	99.75	< 0.001
Africa	14	8 201	71.6 (56.7–83.0)	2 050.22	99.36	< 0.001
Oceania	1	120	91.7 (85.2–95.5)	–	–	–
Sample size						
≤ 400	37	9 104	61.9 (55.1–68.3)	2 752.36	98.69	< 0.001
> 400	52	51 834	75.3 (66.7–82.2)	11 739.21	99.56	< 0.001
Quality of study						
High (16–22)	52	40 864	68.7 (60.2–76)	10 794.22	99.52	< 0.001
Medium (7–15)	28	16 359	72.3 (63–80)	2 780.98	99.02	< 0.001
Low (1–6)	9	3 715	71.2 (58.7–81.1)	481.24	98.33	< 0.001
Year of publication						
1995–2001	2	1 034	91.7 (85.4–95.5)	8.18	87.77	< 0.001
2002–2006	4	10 656	30.2 (8.9–65.6)	582.55	99.48	< 0.001
2007–2011	20	16 868	68 (56.4–77.7)	2 894.05	99.33	< 0.001
2012–2017	63	32 380	71.8 (66.66–76.4)	5 061.25	98.77	< 0.001
Type of students[a]						
Medical	46	15 497	97.2 (95.4–98.3)	1 802.02	97.5	< 0.001
Non-medical	25	23 799	44.7 (29.7–60.7)	8 431.75	99.71	< 0.001
Sex[b]						
Female	23	9 392	76.6 (65.0–85.2)	1 956.78	98.87	< 0.001
Male	23	7 021	66.9 (56.4–75.9)	1 177.13	98.13	< 0.001

[a]*The faculty of the students was not given in 18 studies.*

[b]*The sex of the students was not given in 43 studies.*

(44.7% 95% CI: 29.7–60.7%)). Between 2012 and 2017, the later studies included, the prevalence of self-medication was 71.8% (95% CI: 66.66–76.4%).

The effect of moderator variables (i.e. predictors of self-medication) – publication year, sample size of studies and the mean age of participants – was evaluated using meta-regression analyses (Table 3). All these moderator variables were statistically significantly associated with the prevalence of self-medication ($P < 0.001$).

The odds ratio of self-medication in female versus male students was 1.45 (95 CI%: 1.17–1.79), that is to say self-medication was significantly more prevalent in females (Figure 3, available online).

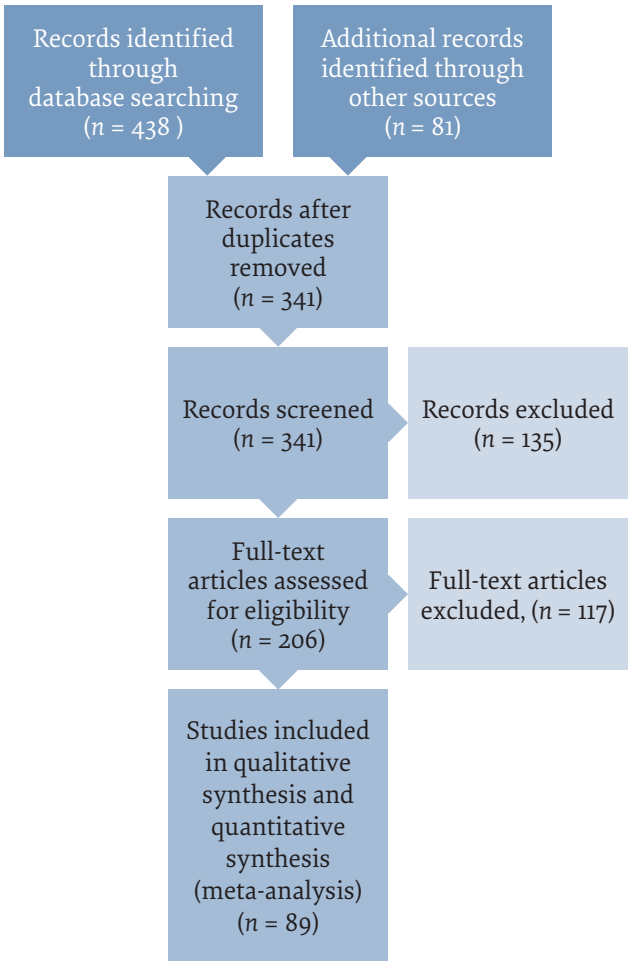
Table 3 Meta-regression analysis of effect of variables on the prevalence of self-medication

Moderator	No. studies	Coefficient	*z*-value	*P*-value	I^2
Year of publication	89	0.11	42.48	< 0.001	1.46
Sample size of studies	89	−0.00	−66.12	< 0.001	1.22
Mean age of participants	40	−0.34	−19.28	< 0.001	0.94

The sensitivity analysis showed the stability of the results (Figure 4, see Supplement 1, available online). We sorted studies according to the year of publication and did a cumulative meta-analysis. The results showed that the prevalence of self-medication did not generally change, confirming once again the robustness of our findings (Figure 5, see Supplement 1, available online). In addition, we sorted studies by sample size and again the prevalence of self-medication did not generally change (Figure 6, see Supplement 1, available online). This confirms the reliability and robustness of our findings.

Finally, we found evidence of publication bias based on the Egger linear regression test. The intercept was 12.57 (95% CI: 7.24–17.90), $t = 4.68$, degrees of freedom = 87, $P < 0.001$). Publication bias was confirmed by the visual inspection of the funnel plot, which is shown in Figure 7 (see Supplement 1, available online).

Figure 1 Flow diagram of selection of studies for inclusion in the systematic review and meta-analysis



Discussion

Our results show that the prevalence of self-medication in students worldwide was 70.1%. The range of prevalence of self-medication in students (7.9–99.0%) was higher than self-medication in adolescents aged 13–18 years (prevalence rate ranging from 2% to 92%) (*110*). In addition, the prevalence of self-medication in students was higher than non-student adults (for instance 35.0% (95% CI: 29.0–40.0%) in Brazil) (*111*). A possible factor for such a high prevalence of self-medication in students could be the high level of education. Indeed, awareness and knowledge of drugs among students has been reported as a key factor in students' behaviour in seeking health care. Students are much more likely to read books and materials on different medications and their benefits for treating illnesses (*15,16*). This knowledge may lead to them self-prescribe treatment rather than seeing a physician. Furthermore, in some cases, living on campus may change students attitudes and make them more prone to self-medication (*112*). We found that the prevalence of self-medication in students in medical sciences (97.2%) was more than twice the prevalence of self-medication in non-medical students (47.7%), which, as hypothesized before, could be because medical students generally have a greater awareness and knowledge about drugs (*113*). Students of medical sciences sometimes try different drugs which they will use in their future profession. In addition, the frequent use of medicines during their training in health centres and their easy access to medications could make them more likely to use medications to treat themselves (*77,96*).

Our subgroup analyses showed that the prevalence of self-medication was lower in high-income countries than middle- and low-income countries. More up-to-date knowledge on the consequences of self-medication, as well as the health counselling against self-medication by health care professionals and the easier access to health care in high-income countries could explain such difference (*114*). At the same time, lower socioeconomic status could lead people to self-medicate, because they cannot afford to go to a doctor. Today, most people have easier access to drugs than before, which can be dangerous for health, especially if poor-quality and inadequate medications are used (*115*).

Moreover, we found that the prevalence of self-medication was higher in women than men (OR = 1.45). This could be because women may use medications before they get ill (*116*). Female use more drugs because of menstruation and gynaecological problems, and usually they look for information about their illnesses (*117*). However, some studies found different results (*118,119*).

Asian students were more likely to self-medicate compared with students in other regions. Cultural, ethnic, economic and social factors can explain such differences in prevalence. Poor supervisory structures for purchase of medications, easy access to medicine, lack of insurance coverage for some students and misconceptions about taking medications without referring to a doctor can increase the prevalence of self-medication (*11,120*).

We found a statistically significant time trend in self-medication worldwide. Despite efforts made by countries to reduce self-medication in students, this practice is still rising; therefore new and more effective measures are urgently needed (*9*). In addition, based on the result of our meta-regression analyses, the mean age of participants was associated with the prevalence of self-medication, with younger students being more likely to self-medicate. This may be due to negative effects of self-medication experienced when students were younger. When someone suffers from complications of self-medication, fear of suffering from other physical or mental problems may prevent him/her from self-medicating again (*77*).

The strengths of our study include: its large sample size, the subgroup analysis, sensitivity analysis, cumulative meta-analysis and meta-regression analyses. All these analyses indicate the methodological rigor of our systematic review and meta-analysis. On the other hand, our review has some limitations. We observed high, statistically significant heterogeneity across the studies included, which could be due to methodological differences in the different studies. Publication bias

was also statistically significant so the results should be interpreted/generalized with caution. In addition, the quality of the studies included differed and the inclusion of some poor-quality investigations might have affected the final estimation.

Conclusion

The results of this study showed that the prevalence of self-medication in students worldwide was high. We recommend that health decision-makers and policy-makers consider developing and implementing programmes about the risks of self-medication, and increasing control and monitoring of the sale of drugs. Facilitating students' access to doctors and health care centres could be effective in reducing self-medication among students.

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Prévalence de l'automédication chez les étudiants universitaires : examen systématique et méta-analyse

Résumé

Contexte : L'automédication peut avoir de graves conséquences, mais sa prévalence globale chez les étudiants n'est pas connue.

Objectifs : La présente étude avait pour objectif de mesurer la prévalence de l'automédication chez les étudiants au moyen d'un examen systématique et d'une méta-analyse des études portant sur la prévalence de l'automédication chez les étudiants à travers le monde.

Méthodes : Les bases de données PubMed/MEDLINE, EMBASE, ISI/Web of Science et Google Scholar ont été consultées jusqu'au mois d'octobre 2017. Les études portant sur la prévalence de l'automédication chez les étudiants universitaires ont été sélectionnées. Les données enregistrées comprenaient l'année de publication de l'étude, le pays où l'étude avait été menée, la taille de l'échantillon, la prévalence de l'automédication, le sexe et l'âge moyen des étudiants, ainsi que la faculté de ces derniers (discipline médicale ou non). Un modèle à effet aléatoire a été utilisé pour déterminer la taille de l'effet avec un intervalle de confiance (IC) de 95 %. L'hétérogénéité des résultats entre les différentes études a été évaluée à l'aide du test I^2. Une analyse de sensibilité a permis d'évaluer la stabilité des résultats.

Résultats : Au total, 89 études ont été incluses dans l'analyse, qui comprenait 60 938 étudiants. La prévalence globale de l'automédication chez les étudiants universitaires était de 70,1 % (IC à 95 % : 64,3-75,4 %). Les étudiantes s'auto-médicamentent plus souvent que les étudiants : odds ratio = 1,45 (IC à 95 % : 1,17-1,79 %). La prévalence de l'automédication chez les étudiants en médecine (97,2 %) était plus élevée que chez les étudiants des filières non médicales (44,7 %). Le test I^2 a révélé une hétérogénéité élevée et statistiquement significative. L'analyse de sensibilité a permis de conclure que les résultats étaient stables.

Conclusions : La prévalence de l'automédication chez les étudiants du monde entier est élevée. Il est recommandé de mettre en place des programmes sur les risques liés à l'automédication et renforcer le contrôle et la surveillance de la vente de médicaments. Le fait de faciliter l'accès des étudiants à des médecins et à des centres de santé pourrait permettre de réduire l'automédication chez les étudiants.

انتشار التداوي الذاتي بين طلاب الجامعات: استعراض منهجي وتحليل تلوي

ميثم بهزادی فر، مسعود بهزادی فر، آیدین آرین خصال، حمید رواقي، حمید برادران، هانیه سجادي، مجتبی خاکساریان، نیکلا براکازي

الخلاصة

الخلفية: يُمكن أن يُسفر التداوي الذاتي عن عواقب وخيمة، ولكن من غير المعلوم المعدل الكلي لانتشاره بين الطلاب.

الأهداف: هدفت هذه الدراسة إلى تحديد معدل انتشار التداوي الذاتي بين الطلاب من خلال إجراء استعراض منهجي وتحليل تلوي للدراسات المعنية بمعدل انتشار التداوي الذاتي بين الطلاب في جميع أنحاء العالم.

طرق البحث: بُحث في برامج Google Scholar، ISI /Web of Science، EMBASE، PubMed /MEDLINE، وذلك حتى أكتوبر/ تشرين الأول 2017. واختيرت الدراسات التي أفادت انتشار المعالجة الذاتية بين طلاب الجامعات. وتضمنت البيانات المُسجلة سنة النشر، والبلد الذي أجريت به الدراسة، وحجم العينة، ومعدل انتشار التداوي الذاتي، ونوع الجنس، ومتوسط أعمار الطلاب، وطبيعة الدراسة في الكلية الملتحقين بها (طبية أم غير طبية). واستُخدم نموذج ذو تأثير عشوائي لتحديد حجم التأثير بفاصل ثقة (CI) قدره 95%. وقُدر عدم التجانس بين الدراسات باستخدام اختبار I^2. وقدَّر تحليلٌ الحساسية ثبات النتائج.

النتائج: بلغ إجمالي الدراسات التي تضمنها التحليل 89 دراسة شملت 60 938 طالباً. وبلغ المعدل الكلي لانتشار التداوي الذاتي بين طلاب الجامعات 70.1% (بفاصل ثقة (CI) قدره 95%: 64,3–75,4%). وكانت نسبة التداوي الذاتي في الطالبات أعلى منها في الطلاب الذكور:

(95% CI: 1.17–1.79) وكان معدل انتشار التداوي الذاتي بين طلاب الطب (97.2%) أعلى منه بين طلاب الكليات الأخرى (44.7%). وقد بيَّن اختبار I^2 عدم التجانس بين الدراسات بنسبة كبيرة من الناحية الإحصائية. وقدَّر تحليلُ الحساسية ثبات النتائج.

الاستنتاج: يُعتبر معدل انتشار التداوي الذاتي بين الطلاب مرتفعاً. ويُوصى بإعداد برامج للتوعية بمخاطر التداوي الذاتي، وإحكام الرقابة على بيع الأدوية ورصد ذلك. وقد يساعد تيسير إمكانية وصول الطلاب إلى الأطباء والمراكز الصحية على الحد من انتشار التداوي الذاتي بينهم.

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