

Online self-medication practices among university students in Palestine: a questionnaire-based study

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ABSTRACT

Background: Advertisement of medical products on social media has become increasingly common, and is associated with increased online shopping in pursuit of self-medication. Such practice highlights the influence of social media advertising on individual use of medicinal products without consultation with health care professionals.

Objectives: To better understand the practice of online self-medication and investigate its prevalence in Palestine, this study specifically assessed the probable reasons, extent of use, and source of advice for online self-medication among university students in Palestine. In addition, the study evaluated factors that influence online self-medication in this population, such as gender, age, knowledge in medical specialty, and perception of online products.

Methods: This study was conducted using a "paper pretested questionnaire" prepared in the Arabic language and self-administered to 700 students from three public universities in Palestine (Al-Najah, Al-Quds, and Bethlehem Universities). The study was conducted over three months (Nov. 2019 – Jan. 2020) and included university students of all years from both medical and nonmedical faculties. Data were collected, coded, entered, analyzed, and summarized using Statistical Package for Social Sciences version 25. Descriptive results were expressed as frequency, percentage, and mean±SD.

Results: Female (87.6%), younger (20-29 years), and medical (57.4%) students tended to use online self-medication more than their peers. Respondents practiced online self-medication to save time (50.4%) and money (49.8%), and a majority (65.7%) reported using online products without consulting physician or pharmacist.

Nearly a third of respondents (29.6%) reported that they did not have any instructions on how to use products, and a significant number experienced side effects from the products they used (p-value <0.001). The internet was the most commonly reported source for self-medication (45.3%), particularly sponsored advertising campaigns on websites (16.7%). In terms of product type, skin care products (76.7%) were the most commonly used, followed by hair products (72.2%), and vitamins (58.8%). In addition, cream and ointments were the most frequently used dosage forms (71.3%). The majority of respondents (64.1%) described their experience as "bad" and "not healthy"; half (50.9%) reported having side-effects and a third (33.6%) stopped using the products because of side effects. Statistical analysis showed that the difference in usage between genders was significant for vitamins, traditional herbs, weight loss products, hair products, skin products, nail products, and food supplements (p-value <0.05). In addition, the relation between specialty domain and product use was significant for hair products, food supplements, traditional herbs, and herbal mixtures (p-value <0.05). The relationship between reading information and experiencing side effects was significant with a p-value of 0.000. Finally, the relationship between side effects and product re-use was significant (p-value <0.05).

Conclusions: Online self-medication is a common practice of young Palestinian university students; this constitutes a health problem, and intervention is needed to minimize risk. We emphasize the important role of health care professionals in educating the community, especially the youth (<30 years), regarding online medication practices that may have harmful side effects.

Keywords: online self-medication, university students, practices, Palestine.

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INTRODUCTION

Self-medication has been defined as patient use of medication (modern and/or traditional) for self-treatment on his/her own initiative or according to the advice of another without consulting either a physician or pharmacist for diagnosis, prescription, or surveillance of treatment (1). Online self-medication has become quite common due to the pervasive importance of social media in modern lives, which features excessive advertisements for medicinal products. It is much easier these days for any profit-seeking companies to sell their products (for skin care, hair, obesity, etc...) by calling on a social media influencer (a person that has an immense number of followers on social media) to advertise those products while pretending to be a user. Then, based on the influencer's exaggerated descriptions, followers take up and use the product themselves.

These online advertisements have substantial effects on individuals, especially among the youth (<30 years); their prevalence raises the potential for incorrect self-diagnosis, and encourages people to use these products without consulting a physician. Furthermore, online orders allow high-pressure sales practices to be used, which may provide a favorable price to the customer and enable customizing offers, product presentation, and various gifts; an account manager; and priority in processing and delivering orders. In addition, the potential for counterfeit products is high, keeping in mind that the proportion of counterfeit medicinal products is estimated to be 10% worldwide (3). Here, we refer to these medications as products because we cannot be sure what these products are: whether they are really medications that have useful active ingredients, or just profit-seeking advertising that aims to convince people to buy these products.

The practice of misusing online products without medical advice is a serious problem. Online self-medication and excessive drug consumption present high risks of developing a condition such as drug poisoning, functional disorders, or serious allergic reactions. At the

same time, the overuse of drugs without medical advice presents the risk of extant or new diseases not receiving timely diagnosis (i.e. at the first symptoms of a disease). Furthermore, patients administrate the drug they think they need, which may not be what a doctor or pharmacist would advise. Ultimately, the dangers behind self-medicating online orders are profound. (2)

This study aimed to better understand the practice of online self-medication (medicinal products and food supplements) and to investigate its prevalence. The study specifically assessed the probable reasons, extent of use, and source of advice for online self-medication practice among university students in Palestine. In addition, the study evaluated factors that influence online self-medication in this population, such as gender, age, medical knowledge (of medical specialty students), and perceptions of online products.

Methods:

Study design and setting

A questionnaire study was conducted over a three-month period from November 2019 to January 2020. Participants consisted of university students from the West Bank universities of Al-Quds University, Al-Najah University, and Bethlehem University who were enrolled at different medical and nonmedical faculties and of all years of study.

Permission to carry out this study was obtained from the Faculty of Pharmacy, Al-Quds University. Ethical approval was obtained from the Al-Quds University Ethical Committee.

The questionnaire was prepared in the Arabic language to make it clear for participants, and it was self-administered. Students from the faculties of Public Health, Pharmacy, Dentistry, and Medicine were designated as "medical students," while the remainder were considered to be "nonmedical students."

Students who accepted participation in this survey were given the questionnaire during their breaks; the approximate time taken to complete the questionnaire

was 3 minutes. A total of 700 questionnaires were distributed, of which 651 were used in the analysis; 49 questionnaires were excluded due to being incomplete or not returned when the students went back to their lectures.

University students were chosen for this study for several reasons: they are young, believed to spend time on social media on a regular basis, and can be influenced by social media celebrities. Nothing has been previously published regarding online self-medication practices among university students in Palestine. Moreover, this population was easily accessible and more likely to respond than others.

Questionnaire development

The questionnaire consisted of thirty-one open and closed-ended questions grouped into four parts.

Demographic information:

The first part consisted of questions regarding demographic information such as gender, age, specialty (medical or non-medical), and geographical location. (Seven questions with 4- or 3-point multiple choice responses.)

Source of information about different products used:

The second part of the questionnaire focused on the type of products the respondent used, sources of information about the products, their reasons for online self-medication, whether they have been asked about their health status to determine the appropriate product, and whether they are satisfied with their experience. (Six questions with different numbers of point according to the nature of the question, except one yes/no question.)

Self-medication practices of students:

These questions related to the respondent's extent of internet use, if they see advertisements while using their social media accounts, if they ever ordered products online for self-medication, if they received

instructions before using the product, if they understood the instructions, whether they have ever experienced adverse events, and what they did if side effects happened. (This section included a total of 12 multiple choice and yes/no questions.)

The last section consisted of a series of questions to which respondents could agree or disagree, such as whether they support online product shopping or prefer physician diagnosis and pharmacist advice. (Five questions with agree or disagree response options.)

Statistical analysis:

The data was entered, cleaned, and coded using the Statistical Package for Social Sciences (SPSS, version 25), then analyzed according to the research questions. Analysis included generating a set of descriptive statistics from the essential variables, represented by counts and percentages (tables and graphs), which describes the practices of the sampled population regarding online self-medication. Inferential statistics were also used in order to examine the significance of a set of hypothesized relationships at $p < 0.05$. These statistics consisted of the chi-square test when examining a relation between two categorical variables, and the ANOVA test when examining the relationship between scaled and polytomous categorical variables.

Reliability

To validate the questionnaire, a pilot study was carried out on 35 students and Cronbach's alpha coefficient was calculated to assess internal consistency. The questionnaire was found to be reliable and valid, with a Cronbach's alpha coefficient of ($\alpha = 0.541$). Pilot study participants were not included in the final analysis (22).

Results:

Sample characteristics

The study analyzed data from 651 students out of 700

(93%), predominantly aged below 29 years (98.2%). The socio-demographic characteristics of the respondents are presented in Table 1. Most participants were female (87.6%), and the majority were studying medical specialties (57.4%). Just under one-fifth were employed (19.2%). Half of the respondents lived in a city (50.1%), while slightly less than half lived in a village.

Self-medication practices

The proportion of respondents using each of seven types of internet-bought products—which product is not specifically mentioned—is given in Figure 1. It is clear that skin and hair products were the types most commonly used, with percentages exceeding 70%. A slight majority of respondents bought vitamins, and about a quarter bought weight loss products, while less than 20% of respondents used food supplements, herbal mixtures, or traditional herbs purchased via the internet. Concerning overall internet usage, 32.9% reported using the internet for more than six hours per day,

Regarding sources of information for these online products, the most common response was that the students knew about the product from the internet (Figure 2). About a quarter learned about it from friends, and less than a fifth from sponsored advertisements, while almost none had previous experience with the product.

Figure 3 illustrates the numbers of online self-medication products used by participating students. The majority of students (80.6%) used 2-4 such products. The most frequently ordered dosage form was as creams and ointments (71.3%).

Slightly less than half of respondents (45.3%) indicated that they are willing to re-try products purchased via the internet. Most respondents considered the country of manufacture, type, and price of the online self-medication product (81.3%), while about two-thirds read the product contents (67.6%).

However, for those that stopped using a product, the

most common reason was that they did not get the benefit expected (about 30%). A slightly smaller percentage stopped because they completed the product regime (28.1%), while about a quarter stopped because they received the expected benefit (24.3%), and a small proportion (15.4%) stopped because of side effects. Half of respondents (50.8%) reported experiencing side effects after using a self-medication product. Of those who experienced side effects, most stopped using the product (38.1%), about a third gave the product to someone else (33.6%), and the remainder looked on the internet for a solution (28.3%).

The majority of students reported knowing the therapeutic dose due to internet searching, while 14.7% learned from the advice of relatives and friends and 12% predicted the dose by themselves. However, 54.1% of students reported poor adherence to the recommended dose, and changing the therapeutic dose was very common, as 53.5% reported taking less or more than recommended. The most common reasons for deviating from the recommended dose were to solve their problem more quickly (34.9%) and due to not getting the perceived benefit (31.4%). About a fifth (20.6%) changed their doses to reduce side effects, while about a tenth (10.2%) reported finding the product unsuitable.

In terms of their satisfaction concerning using self-medication products obtained through the internet, participants were nearly equally divided in considering their experience good, bad, or unhealthy. A good experience was reported by 35.9%, while 34.1% reported a bad experience and 30% an unhealthy experience.

Responses to agreement prompts

In the last section of the questionnaire, a majority (70%) responded yes to the statement “Do you believe that every individual has the right to buy any product they want?” A greater proportion (79.4%) agreed that “Shopping through the internet is better.” However, 38% did not agree that “Consulting a beauty expert is better than consulting doctors because the results are faster.” A small

proportion of respondents (17.8%) would recommend online medical shopping over doctor and pharmacist consulting, while more than half (55.6%) would like to sell products online themselves.

Statistical differences

Statistical analysis showed that a greater percentage of females used online products than did males, and the difference in usage between genders was significant (at 95% confidence level) for vitamins (p -value < 0.001), traditional herbs (p -value 0.029), weight loss products (p -value < 0.001), hair products (p -value 0.024), skin products (p -value < 0.001), nail products (p -value < 0.001), and food supplements (p -value < 0.001). The only product that did not show significant gender difference in usage was herbal mixtures.

Another statistical relationship that was evaluated was the difference in product purchases by type between students with medical specialties and those having non-medical specialties. A higher percent of students with medical specialties used internet-purchased products than did those of non-medical specialties. The relation between specialty domain and product use was significant (at 95% confidence) for hair products (p -value 0.023), food supplements (p -value 0.001), traditional herbs (p -value 0.003), and herbal mixtures (p -value 0.006).

More than half of participants that used soap, spray, injection, cream, or tablet products reported side effects. In particular, 49% of those that used creams experienced side effects. However, no statistical relationship was observed (at 95% confidence) between dosage form and side effects (p -value 0.288).

In addition, about 63% of those who never read information about the product experienced side effects, while over 40% of those who sometimes or always read information experienced side effects. Of those who reported no information being provided with the product, 83.1% experienced side effects. The relationship between reading information and experiencing side effects was

significant (at the 95% confidence level), with p -value 0.000.

The mean number of products purchased via the internet was highest for those students who reported being attracted by online advertisements. However, this relationship did not reach significance at 95% confidence (p -value 0.625).

Finally, as shown in Table 8, of those who experienced a side effect, less than half re-used the product, while more than half did not. With a p -value < 0.049, the relationship between side effects and product re-use is significant (at 95% confidence).

Discussion:

Self-medication is a common practice in developing countries like Palestine due to the easy availability of non-prescription drugs. Self-medication reduces the treatment burden on health care facilities and saves time for the patient by increasing access to medications. However, using the internet to buy pharmaceutical products means the safe and effective use of these medicines includes some uncertainty. Self-medication increases risks such as incorrect diagnosis, polypharmacy, and excessive use of medication (4).

Studies on self-medication have reported different prevalence rates in different parts of the world, ranging from 26.2% to as high as 98% (5, 6, 7, 8). These studies highlight self-medication without specifically considering the use of the internet for self-medication. This study was carried out to examine online self-medication practices in Palestine, specifically among university students. With a response rate of 93%, the results show that online self-medication is very common among university students in Palestine.

The majority of the participants were undergraduate students. In terms of gender, the majority of students who have practiced online self-medication were female, which emphasizes that this population is highly influenced by social media and internet promotion of online self-medication. This finding is similar to a study from Kuwait,

which showed that females practiced self-medication significantly more often than males (9). However, a study in Abbottabad, Pakistan found no significant difference in self-medication between the two genders of university students (11, 12).

The prevalence of online self-medication in this study was 65.7%. About (57.1%) of the respondents belonged to medical specialties, and medical students were generally more interested in online self-medication. However, non-medical students also had notably high odds of using online self-medication; this is not a healthy finding at all, because such students lack medical backgrounds and could be deceived by the attractive promises of advertisements.

In contrast, a study in Karachi (10) found no significant difference between self-medication practices of medical and nonmedical students, of males and females, or by respondent year of study. This could be explained by the fact that non-medical students consider themselves to be just as knowledgeable about medicines as medical students, or it may simply be that university students both medical and nonmedical do not care much about the implications of such behavior and thus do not hesitate to indulge in such activities. Notably, in the present study, self-medication rates were not significantly lower in students aware of its harmful effects ($p = 0.21$). It was also noticed in this study that students who use the internet more are the ones exposed to ads while perusing their social network accounts.

In our study, the most reported reasons for ordering drugs via the internet were interest in the ads and saving time by forgoing a consultation. This is similar to reports from a 2018 study of pharmacy students in Jordan.

In this study, the therapeutic classes most commonly consumed through online self-medication were skin products and hair products in cream and ointment forms. This is likely due to common skin problems among females such as unwanted pigmentation, acne, and dryness. Accordingly, females were both the most targeted population and the most consuming population of these

products. The same could hold for hair products. Moreover, online companies selling products did not ask consumers about the health condition they are trying to treat when ordering the product. Hence, there is potential for some companies to take advantage of vulnerable customers and used them to make a profit.

Surprisingly, nearly two-thirds of participants reported that their experience was “bad” or “not healthy,” while about a third reported their experience was “good.” Furthermore, when asked if they gave the product another shot, more than half reported not using it again after their first trial. Of course, there are many factors that would make for a bad experience with a product, including a lack of instructions for its use or partial or negligible understanding of the instructions.

Students that had good experiences with the products were asked if they read the directions for use. The most frequently reported answer was “yes” (41.2%); however, a majority (65.3%) reported not trusting what the seller said about the product and searching about it on the internet before use.

The majority of respondents (65.7%) reported using online products without consulting a physician or a pharmacist, and more than a third of the students (32.4%) in this study reported not reading the product ingredients before use, as a strong point for companies making the purchasing process easier. Which raises the questions of what really are the products they used, and what were the active ingredients? Are these products licensed for use?

A majority of respondents (59.1%) reported that the product they used did not contain any forbidden ingredients, such as alcohol or pig fats, while 36.4% reported not knowing if there were forbidden ingredients, and 4.1% reported the product did contain a forbidden ingredient. So, what did these products really contain? Does the Ministry of Health know that these products, which are available everywhere and can be ordered and used by anyone, contain pig fats and alcohol?

Similar concerns exist regarding the doses of these products. The majority of students reported knowing the

therapeutic dose due to internet searching, while 14.7% learned from the advice of relatives and friends and 12% selected the dose by themselves. However, 54.1% of students reported poor adherence to the recommended dose, and changing the therapeutic dose was very common; 53.5% were taking less or more than recommended. The change in doses as well as differences in sample size caused differences in the prevalence of side effects.

The most common reason reported for changing dosage was to get faster results (18.4%), followed by not getting the desired result (18%) and reducing the dose to decrease side effects (11.6%). By this, we can emphasize the uselessness of these products. These results are similar to other studies that found changes in doses during the course of self-medication for one reason or another. Such a change was reported by 30.4% of the respondents in the current study, and by a higher percentage (57.1%) in another study (15). Meanwhile, adverse drug reactions because of self-medication practice were reported by a small percentage (9.2%) of subjects in another study (16).

While 50.8% of participants in the current study reported suffering from side effects, a study conducted in Kuwait found that only 14.8% of 900 undergraduate medical students reported adverse effects. Similarly, a cross-sectional study carried out at Suez Canal University in Egypt found that self-medication caused side effects among 28.9% of students (26 of 90) (17). Surprisingly, in our study, 38.1% of participants reported giving the product to one of their family members after suffering from side effects. This is similar to the finding of a study conducted in Germany, in which 83.6% of participants frequently advised other people about self-medication (18).

Interestingly, 79.4% of participants agreed that purchasing these products through the internet is better than consulting a doctor or a pharmacist. This relatively high percentage might be due to the saving of time and money with online self-medication, even though the results of self-medication ranged from no response to the occurrence of side effects. However, 38.9% affirmed that

consulting a beauty expert is better than consulting a doctor or pharmacist because the results are faster. This is likely due to the lack of strict rules to limit consultations by beauty experts; in some cases, respondents stated that "The beauty expert prescribed some drugs such as antibiotics for acne."

Overall, the results from this study draw attention to the attitudes and patterns of online self-medication among university students in Palestine. Unsafe patterns of self-medication could lead to the occurrence of adverse drug reactions (19, 20), and this needs to be addressed in future studies. Self-medication is believed to do more harm than good and to lead to wastage of resources, the development of adverse drug reactions, and prolonged illness and suffering (21). This is likely due to the free access to medicines and lack of strict rules for obtaining them that holds in developing countries like Palestine.

This study showed that online self-medication practices are very common among university students in Palestine; therefore, students should be educated on the consequences of self-medication practices. Moreover, national guidelines on medicine access should be developed, and strong measures should be implemented to halt the selling of medications without a proper prescription. Further studies should also be done to assess self-medication practice in the community. Unfortunately, there are no data available regarding self-medication practices among the general public in Palestine, which makes it difficult to compare the extent of self-medication among university students with that among the general public.

Study limitations:

Most participants were female students, and the study was done with university students and may not apply to the rest of the population. In addition, online self-medication practices of Palestinian university students may particularly be different from those of the general population of Palestine in terms of the use of herbal mixtures. On the other hand, a lot of students denied their online self-medication practice, as

they refused to participate and talk about their own experiences. Finally, there was "recall bias" in the answered questionnaire for one reason or another.

Recommendations:

Efficient communication within the physician - patient - pharmacist triangle is necessary in order to educate people on the possible dangers of self-medication. Contraindications, drug interactions, and possible side effects must be written and pointed out for the patient receiving an online order. In addition, awareness and public health education must be improved all over Palestine by using social media networks and by publishing awareness leaflets in Ministry of Health offices and clinics in order to make clear how dangerous these products are and to stop people from purchasing them. Furthermore, strict policies from health authorities need to be implemented concerning the advertising and selling of products that make medical claims, the better to prevent this problem from expanding.

Conclusion:

Online self-medication is a common practice of young Palestinian University students; this constitutes a health problem that requires intervention to minimize risk. We

emphasize the important role of pharmacists in educating the community, especially the youth (<30 years), regarding online self-medication practices and in alerting them to the seriousness of consequences such as harmful side effects of these products and sharing medications among family members and friends.

The practice of online self-medication is alarming. Our research focused on the types of drugs, their use, their safety, and reasons for the practice. Self-medication would be safe if the person has sufficient knowledge about the dose and other related instructions along with the expected side effects. Unfortunately, the present pervasive lack of information can cause serious effects such as skin problems, hypersensitivity and allergy, hair loss, and so on.

Patients can easily purchase online products that carry potential health risks, and also counterfeit medicines. As a result, patients who self-medicate will often take products of uncertain origin and quality.

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Table 1: socio-demographic characteristics

	Variable	Count	Percentage
Gender	Male	81	12.4%
	Female	570	87.6%
Age	Less than 20 years	265	40.7%
	20-29	374	57.5%
	30-50	12	1.8%
Educational level	Higher studies	16	2.5%
	University	635	97.5%
Working status	Employed	125	19.2%
	Not employed	526	80.8%
Living area	City	326	50.1%
	Village	295	45.3%
	Camp	30	4.6%
Study field	Medical	372	57.4%

Variable		Count	Percentage
Directorate	Non-medical	276	42.6%
	North	160	24.6%
	Middle	295	45.3%
	South	196	30.1%

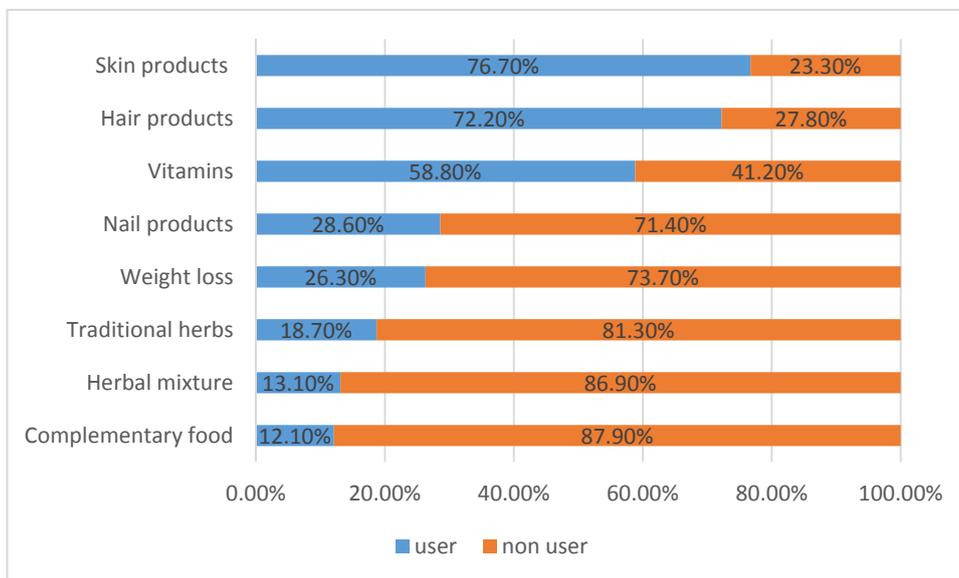


Figure 1: Distribution of online product use by product type.

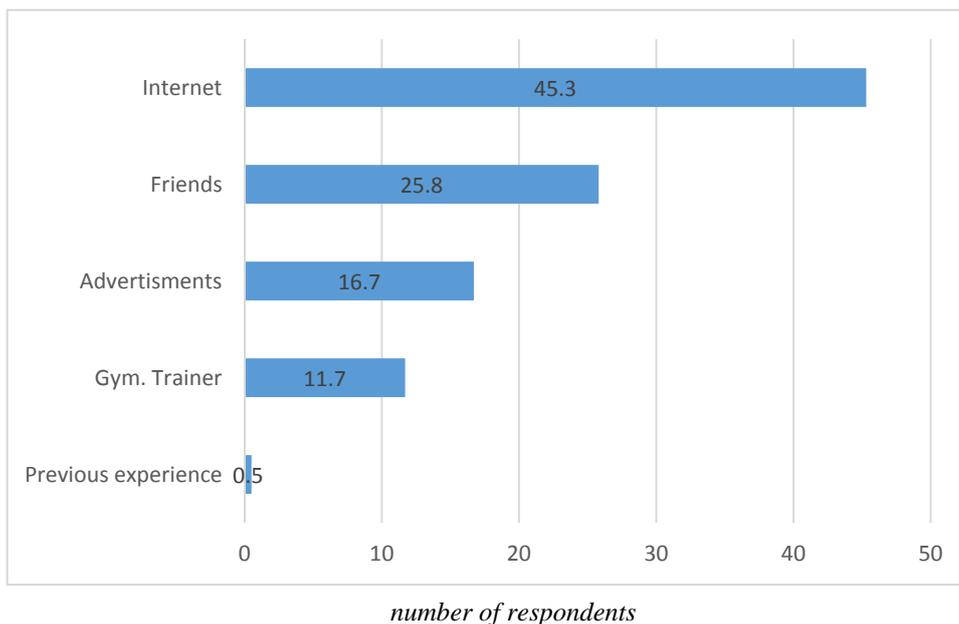


Figure 2: How respondents became aware of products.

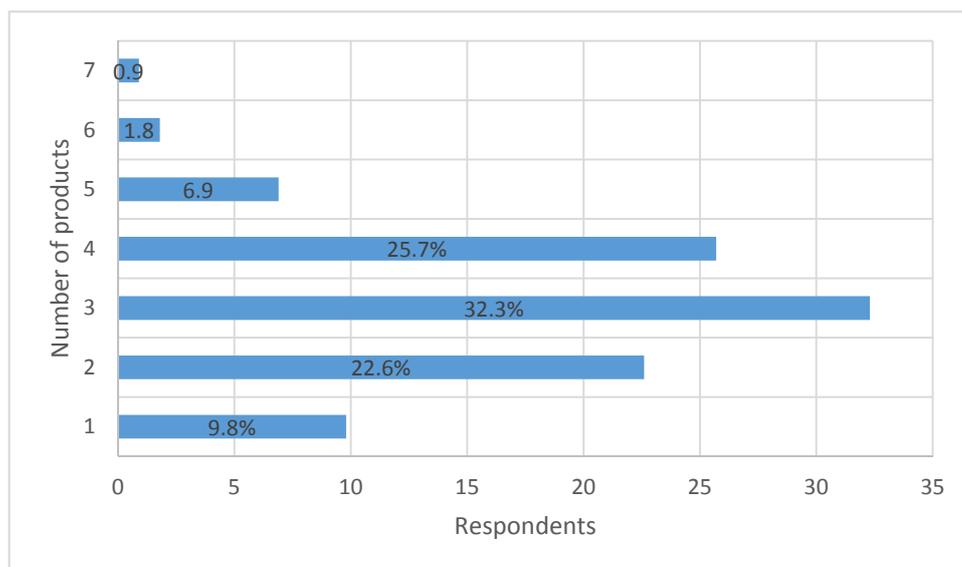


Figure 3: Distribution of respondents by number of products used.

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مدى استخدام الانترنت ووسائل أخرى فى استعمال الأدوية والمكملات الغذائية فى فلسطين

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ملخص

خلفية البحث: تزايد الاعلانات التجارية الممولة والغير ممولة للمنتجات الطبية أدى الى تزايد شراء المنتجات الطبية هذه دون اللجوء الى استشارة طبيب أو صيدلاني والاعتماد على ما ذكر في هذه الاعلانات، وتركز هذه الدراسة على مدى تأثير هذه الاعلانات على الأفراد في استخدام هذه المنتجات دون استشارة أهل الاختصاص.

الهدف من الدراسة: تركز هذه الدراسة على تحسين الفهم وزيادة الوعي حول استخدام المنتجات الطبية بالاعتماد على الدعايات لها ولمعرفة نسبة انتشار هذه الظاهرة في فلسطين. ولمعرفة الأسباب التي تدفع الأفراد لاستخدام منتجات طبية عبر الانترنت، مدى الاستخدام، ومصادر الحصول على نصيحة لتجربة المنتجات عبر الانترنت بالإضافة لدراسة العوامل التي تدفع الأفراد لممارسة هذه السلوكيات مثل الجنس، العمر، المعرفة الطبية الدوائية من عدمها.

طريقة البحث: تمت الدراسة باستخدام استبيان تم تحضيره باللغة العربية وتم توزيعه على 700 طالب وطالبة من مختلف التخصصات وجميع السنوات الدراسية من جامعات فلسطين، جامعة النجاح الوطنية، جامعة القدس-أبو ديس وجامعة بيت لحم. تم توزيع وتجميع العينات خلال فترة 3 شهور متتالية من شهر تشرين الثاني لعام 2019 حتى شهر كانون الثاني لعام 2020. تم جمع البيانات واحصائها وتحليلها وتلخيصها باستخدام البرنامج الاحصائي نسخة 25.

النتائج: نسبة المشاركين بتعبئة الاستبيان من أصل 700 هم 93%. 57.5% من فئة الشباب (20-29 عام)، (87.6%) من الاناث، (57.4%) من دارسي التخصصات الطبية، ومن أهم الأسباب التي دفعتهم لاستخدام الانترنت، (50.4%) بهدف توفير الوقت، (49.8%) لتوفير المال -بدل استشارة طبيب (65.7%). -من المشاركين بالبحث استخدموا المنتجات الطبية دون استشارة طبية، (29.6%) من مستخدمي المنتجات الطبية عبر الانترنت لم تصلهم تعليمات لكيفية استخدام المنتجات وحصول مضاعفات جانبية اثر استخدامها، (35.3%) من المستخدمين استخدموا المنتجات على ثقة تامة بما قيل لهم بالإعلان، (65.3%) لجأوا الى الانترنت للبحث عن هذه المنتجات وكيفية استخدامها. (32.9%) من المشاركين يقضون أكثر من 6 ساعات يومياً على الانترنت ووسائل التواصل، (94.2%) كانوا يرون اعلانات ممولة لمنتجات طبية خلال تصفحهم وسائل التواصل. (45.3%) من المشاركين جربوا هذه المنتجات بسبب الانترنت والصفحات على وسائل التواصل، (16.7%) من الاعلانات الممولة. المنتجات الأكثر استخاماً كانت منتجات البشرة بنسبة (76.7%)، ثم منتجات الشعر بنسبة (72.2%)، ثم الفيتامينات بنسبة (58.8%). الشكل الصيدلاني الأكثر استخداماً هو الكريما والدهون بنسبة (71.3%)، (54.7%) من مستخدمي المنتجات الطبية أعادوا هذه التجربة مرة أخرى. (64.1%) من المشاركين وصفوا تجربتهم للمنتجات عبر الانترنت بأنها تجربة "سيئة" وغير صحية، (50.9%) من المستخدمين واجهوا اثار جانبية للمنتجات، (33.6%) من المشاركين توقعوا عن استخدام المنتجات التي اشتروها بسبب مواجهة الاثار الجانبية.

الخاتمة: استخدام المنتجات الطبية عبر الانترنت دون اللجوء الى استشارة طبية يعتبر شائع لفئة الشباب في فلسطين، وهذا يساهم في زيادة المشاكل الصحية، ولمعالجة وتخفيف ومحاولة منع هذه السلوكيات لتخفيف الاضرار تؤكد على دور وأهمية استشارة أهل الاختصاص وزيادة الوعي بين الناس عن أضرار هذه المنتجات.

الكلمات الدالة: المنتجات الطبية، الانترنت، طلاب الجامعات، السلوكيات الخاطئة، فلسطين .

تاريخ استلام البحث 2020/5/28 وتاريخ قبوله للنشر 2021/5/29.