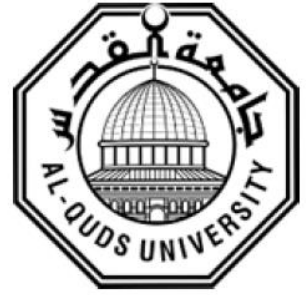


Deanship of graduate studies

Al- Quds University



**Knowledge, Beliefs, and Practices of Self-Medication in
Children by their Parents in Ramallah and AL-Birah
Hospitals**

Noor Ahmad Yousef Shamasneh

M.Sc. Thesis

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**Knowledge, Beliefs, and Practices of Self-Medication in
Children by their Parents in Ramallah and AL-Birah
Hospitals**

Prepared by:

Noor Ahmad Yousef Shamasneh

BSc. in Nursing Science/ Bethlehem University/ Palestine

Supervisor: Dr. Mohammad Jerjawi

**A thesis submitted in partial fulfilment of the
requirements for the degree of Master of Science in
Pediatric Nursing at Faculty of Health Profession,
Nursing Department, AL-Quds University.**

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Al-Quds University
Deanship of Graduate Studies
Faculty of Health Profession



Thesis Approval

Knowledge, Beliefs, and Practices of Self-Medication in Children by their Parents in Ramallah and AL-Birah hospitals

Prepared By: Noor Ahmad Yousef Shamasneh

Registration No.: 22011387

Supervisor: Dr. Mohammad AlJerjawy

Master thesis submitted and accepted. Date: 03 / 01 /2023

The names of signatures of the examining committee members are as follows:

1. Head of the committee: Dr. Mohammad Jerjawy

Signature.....

2. Internal examiner: Dr.kawther alayasa

Signature.....

3. External examiner: Dr.Osama Elian

Signature.....

Jerusalem – Palestine

1444 / 2023

Dedication

To whom came with me towards the dream .. Step by step

To my dear husband with my love

To my son (Anas) and daughters (Rafif and Mayar)

*To the spring of tenderness, who was always praying to see me in
this place. To my beloved mother.*

To my father, who has had the first footprint in my life.

To my brothers and sisters and their families.

*To all who helped me to complete this research and gave me help
and extended a hand to help and provided me with the information
necessary to complete this research.*

Noor Ahmad Yousef Shamasneh

Declaration

I certify that this thesis submitted for the degree of Master, is the result of my own research, except where otherwise acknowledged, and this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed:



Noor Ahmad Yousef Shamasneh

03/01/2023

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Knowledge, Beliefs, and Practices of Self-Medication in Children by their Parents in Ramallah and AL-Birah Hospitals

Abstract

Self-medication is considered a significant public health challenge around the world since it is a widespread practice. Inappropriate and unjustified self-medication lead to the depletion of healthcare resources, drug-drug interactions, raises the resistance to pathogens, and adverse drug reactions leading to hospital admissions. The aim of this study is to assess the knowledge, beliefs, and practices of self-medication in children by their parents in Ramallah and AL-Birah hospitals.

This study is a cross-sectional design and collected data from 376 parents who live in Ramallah & Al-Bireh governorate and have children under the age of 12 years. Cronbach's alpha equals 0.939 for the study tool. SPSS V25 was used for data entry and analysis. The researcher received approval letters from Research Ethics Committee.

The results showed that out of 376 respondents, more than two-thirds were female (71.3%), and the highest age groups were the age group between 30 to 39 years (42.5%). The results showed that the highest group of educational level was university education (45.2%) followed by 29.3% secondary school education; 96.8% of respondents were married while 3.2% were divorced. More than half of the respondents was employed (52.7%). The majority of respondents has sometimes used self-medication (42.0%) while 25.9% of them rarely and 19.8% of respondents use self-medication when a symptom is mild. The highest groups of participants used self-medication when having fever and headache (79.8%) followed by nausea and vomiting (31.9%), cough and cold (26.6%), other's problems (26.1%), diarrhea (13.8%), skin problem (3.2%) and the lowest groups used the self-medication when having eye/ear problems (2.1%). The results showed that 86.2% of participants had a low level of self-medication, 31.4% have high knowledge of self-medication, 53.7% have a low level of belief in self-medication and 59.6% have moderate levels of practice of self-medication. There is a higher statistically significant among males in the average of self-medication compared to females and knowledge of self-medication and domain as total ($P<0.05$). Among divorced higher statistically significant than married in the average of self-medication and practice of self-medication and domain and employed higher statistically significant compared to those who were not employed in the average of self-medication and knowledge of self-medication ($P<0.05$). There is a statistically significant difference among members who have a relationship with the children in the average of self-medication ($P<0.05$). Finally, the results showed there is a positive significant correlation between domain as total with self-medication, knowledge of self-medication, beliefs of self-medication, and practice of self-medication.

The study concluded that there is a moderate level of self-medication among participants. More than half of participants have high level of knowledge and low level of belief about self-medication, and moderate level of practice of self-medication.

Keywords: knowledge, beliefs, practices, self-medication, children, parents, Ramallah, and AL- Birah hospitals.

معرفة ومعتقدات وممارسات العلاج الذاتي للأطفال من قبل والديهم في مستشفيات رام الله والبيرة

إعداد: نور أحمد يوسف شماسنة

إشراف: د. محمد الجرجاوي

الملخص

يعتبر التطبيب الذاتي تحديًا كبيرًا للصحة العامة في جميع أنحاء العالم لأنه ممارسة منتشرة. يؤدي العلاج الذاتي غير المناسب وغير المبرر إلى استنفاد موارد الرعاية الصحية، والتفاعلات الدوائية، وزيادة المقاومة لمسببات الأمراض، وردود الفعل الدوائية الضارة التي تؤدي إلى دخول المستشفى. الهدف من هذه الدراسة هو تقييم معرفة ومعتقدات وممارسات العلاج الذاتي للأطفال من قبل والديهم في مستشفيات رام الله والبيرة.

هذه الدراسة عبارة عن تصميم مقطعي وبيانات مجمعة من ٣٧٦ ولي أمر يعيشون في محافظة رام الله والبيرة ولديهم أطفال دون سن ١٢ عامًا. قيمة كرونباخ ألفا لأداة الدراسة هي ٠.٩٣٩. تم استخدام برنامج الحزمة الإحصائية للعلوم الاجتماعية (SPSS - الإصدار ٢٥) لإدخال البيانات وتحليلها، تم الالتزام بكل الاعتبارات الأخلاقية وتلقى الباحث خطابات موافقة من لجنة أخلاقيات البحث.

أثبتت النتائج أنه من أصل ٣٧٦ مبحوثًا، كان أكثر من الثلثين من الإناث (٧١.٣٪)، وكانت أعلى الفئات العمرية بين المستجيبين هي الفئة العمرية بين ٣٠ إلى ٣٩ عامًا (٤٢.٥٪). وأظهرت النتائج أن أعلى مجموعة من المبحوثين أكملوا الدراسة الجامعية (٤٥.٢٪)، تليها ٢٩.٣٪ من المبحوثين أنهوا المرحلة الثانوية، و ٩٦.٨٪ من المستجيبين كانوا متزوجين و ٣.٢٪ كانوا مطلّقين. أكثر من نصف مجتمع الدراسة كانوا موظفين (٥٢.٧٪). كشفت النتائج أن غالبية سكان الدراسة استخدموا أحيانًا العلاج الذاتي (٤٢.٠٪) بينما ٢٥.٩٪ منهم نادرًا و ١٩.٨٪ من المستجيبين يستخدمون التطبيب الذاتي عندما تكون الأعراض خفيفة. استخدمت أعلى مجموعات المشاركين العلاج الذاتي

عند الإصابة بالحمى والصداع (٧٩.٨٪) يليه الغثيان والقيء (٣١.٩٪) والسعال والبرد (٢٦.٦٪) ومشاكل أخرى (٢٦.١٪) والإسهال (١٣.٨٪) والجلد مشكلة (٣.٢٪) واستخدمت أقل المجموعات العلاج الذاتي عند وجود مشاكل في العين / الأذن (٢.١٪). أظهرت النتائج أن ٨٦.٢٪ من المشاركين لديهم مستوى منخفض من العلاج الذاتي، و ٣١.٤٪ لديهم معرفة عالية بالتطبيب الذاتي، و ٥٣.٧٪ منهم لديهم مستوى منخفض من الإيمان بالتطبيب الذاتي و ٥٩.٦٪ لديهم مستويات معتدلة من ممارسة التطبيب الذاتي. أظهرت النتائج أن هناك أعلى دلالة إحصائية بين الذكور في متوسط العلاج الذاتي مقارنة بالإناث. بين المطلقين أعلى دلالة إحصائية من المتزوجين في متوسط التطبيب الذاتي وممارسة التطبيب الذاتي والمشاركين الذين لديهم عمل أعلى دلالة إحصائية مقارنة بمن لا يعملوا في متوسط التطبيب الذاتي ومعرفة التطبيب الذاتي ($P < 0.05$).

استنتجت الدراسة أن أكثر من نصف المشاركين يوجد لديهم مستوى عالٍ من المعرفة ومستوى منخفض من المعتقدات تجاه التطبيب الذاتي ومستوى معتدل من ممارسة التطبيب الذاتي.

الكلمات المفتاحية: المعرفة، المعتقدات، الممارسات، التطبيب الذاتي، الأطفال، الآباء، مستشفيات رام الله والبيرة.

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List of Abbreviations

AACAP	American academy of children and adolescent psychiatry.
ANOVA	Analysis Of Variance
CI	Confidence Interval
D	Domain
DNA	Deoxyribonucleic acid
F	One-way ANOVA
KAP	Knowledge, Attitudes and Practices.
km	Kilometer
Max	Maximum
Min	Minimum
MOH	Ministry of Health.
N	Frequency
n	Number of subjects
NIS	Israeli new shekel
NSAIDs	Non-steroidal anti-inflammatory drugs
N-TSH	Thyroid Stimulating Hormone
OTC	Over the counter.
PCBS	Palestinian Central Bureau of Statistics
PKU	Phenylketonuria
P-value	Probability value
Q	Question
r	Person correlation
SD	Standard Deviation
SE	Standard Error
SM	Self-Medication.
SPSS	Statistical Package for the Social Sciences.
t	One sample t-test
UNRWA	United Nations Relief and Works Agency

URT	Upper Respiratory Tract
URTIs	Upper respiratory tract infections.
WHO	World health organization.

Chapter 1

Introduction

Chapter 1

Introduction

1.1 Background

Medications play a significant role in the treatment of health problems, doctors carefully analyze an individual's personal and family medical history before prescribing medication; medicines that are safe for one individual might not be safe for someone else, people who use medications that were not prescribed for them may have side effects that are dangerous (American Academy of Child and Adolescent Psychiatry [AACAP], 2017).

Medication has provided vital advantages since its discovery decades ago, and it is now a major source of drug-related health costs; they were responsible for the eradication of a number of serious bacterial infections, especially in children (Zahreddine et al., 2018).

Children, for example, are frequent users of antibiotics, with studies revealing a greater consumption (65 percent) among children aged 1 to 5 years compared to (38 percent) among teens; however, antibiotics use, whether in children or adults, has not always been rational or proper and errors could be encountered in the antibiotic indication, choice, dosage or period, administration or even compliance to treatment (Zahreddine et al., 2018). Thus, 'medication misuse,' which refers to the irrational use or over consumption of medication, can threaten any patient of any age and might concern any medication; it is presently regarded as a major public health problem worldwide, with a special emphasis on poor nations; in reality, self-medication with antibiotics, which is regarded a key cause of medication misuse, is extremely common in the developing country, where knowledge, regulations and awareness are often lacking (Zahreddine et al., 2018).

Medication misuse is also influenced by cultural variables, socioeconomic status, self-medication, and education level are all factors that contribute to medication misuse; furthermore, lack of health education is another major factor; for example, nearly two-thirds of all oral antibiotics are dispensed without a prescription and are improperly used

for health conditions such as mild childhood infections, pneumonia, malaria, and tuberculosis (Al-Ayed, 2019).

Also, according to pediatricians, the majority of parents want antibiotic treatment for their children's upper respiratory tract infection (URTI); to improve antibiotic use, it is argued that simultaneous well-structured interventions aimed at both pediatricians and parents are required (Rousounides et al., 2011).

Parents' lack of information about how to use medication wisely to treat common child illnesses can lead to their overuse; also, from the other side, doctors frequently prescribe medication as a first response to a variety of symptoms, usually blaming such over prescription on patient/parent pressure (Al-Ayed, 2019).

In Palestine, similarly to other developing countries, community pharmacists dispense medications without a prescription, even though by law no medication should be dispensed without a prescription; persons of all ages (either elderly or children) can easily buy medications from pharmacies without the need for a medical prescription; socioeconomic and cultural factors are particularly challenging in reducing self-medication usage in any country and people are highly inclined to self-medicate due to false beliefs or an inability to afford a medical visit; besides, the number of local pharmacies is progressively growing, contrariwise to the price of medications, which worsens the problem (Abu Tayyem, 2017).

It is worth noting that the role of nursing and health staff regarding the self-medication use for children by parents is to evaluate knowledge, beliefs, and practices about medication usage from the parents' perspective and understanding these knowledge, beliefs, and practices, identify contributing variables to self-medication use as well as barriers to preventing self-medication use, support the community-specific, parent-centered educational resources which are particularly designed to these parents in to raise awareness and reinforce appropriate usage of medication in an effort to improve interactions between the parent, patient, and health care provider; as well as provide health education about the self-medication use and its negative impacts (Havens & Schwartz, 2016).

In this context, the research was conducted to assess the parent's knowledge, beliefs, and practices regarding self-medication use for their children; as well as to find out the factors that cause the self-medication use by Palestinian families in Ramallah & Al-Bireh.

1.2 Problem Statement

Self-Medication is a global health problem addressed worldwide, including in Europe, Asia, Africa, the Middle East, Australia, and America. A very high prevalence of SM has been reported in Southeast Asian countries. The problem is more apparent in undeveloped countries since access to medications without a prescription is simple and easy, resulting in several adverse effects, particularly bacterial resistance (Naseef et al., 2022).

In addition, the scientific reports indicated that the use of medication, especially antibiotic, without a diagnosis or a prescription, may lead to decrease immunity and increase resistance to microorganisms (World Health Organization [WHO], 2020). For example, antibiotics are prescribed when a sample of the patient's microorganism is taken, and a bacterial culture is done for him to identify the proper antibiotic and dose. Otherwise, using antibiotics on a haphazard and qualitative basis may aggravate the condition and lead to microbial resistance to the antibiotic. The incorrect use of medication includes (wrong dose, storage, time, preparation) (Tariq et al., 2022).

Also, resistance to medications is an important public health issue. It has been linked to socio-demographic factors, beliefs, lack of knowledge and uncontrolled use (Mallah et al., 2020).

From the researcher's point view, there are no research focused on the subject of Self-Medication among children in Palestine. Therefore, the researcher focused in this study on the self-medication for children in Ramallah and Al-Bireh governorate and assessing the knowledge, beliefs and practices related to the use of medication.

1.3 Justification

Medications are currently irrationally used in Palestine due to widespread availability of these medications, which may lead to a lot of problems such as steady increase in antibiotic resistance (Abu Tayyem, 2017).

The raising awareness regarding the medications use will reduce the self-medication use and avoid the use of any medication without a prescription. Therefore, this study may be of great importance in spreading awareness among Palestinian families, and thus will contribute to reducing the mortality and morbidity rate in the Palestinian society and come up with new results to reduce the risks resulting from the wrong use of medicines, which will have a significant impact on improving the health situation.

Also, this study is important in identifying any factors related to poor knowledge among parents regarding to medications use, to recognize priorities and gaps in health education activities & interventions in Palestine.

Furthermore, it may help in predicting the number of families with low rates of medications knowledge and use this number in developing proper interventional programs to improve the public knowledge of medications and hence, take a step towards controlling of medications use.

Finally, the researcher will provide the Ministry of Health, decision-makers, and local community institutions with suitable recommendations to motivate them to conduct awareness-raising activities regarding the use of medicines and the complications and side effects that may arise from it.

1.4. Research hypothesis:

H0: There are no significant differences at the level of $P\text{-value} \leq 0.05$, between level of knowledge regarding self-medication, and socio-demographic characteristics among parents of the children in Ramallah & Al-Bireh hospitals.

H0: There are no significant differences at the level of $P\text{-value} \leq 0.05$, between beliefs regarding self-medication, and socio-demographic characteristics among parents of the children in Ramallah & Al-Bireh hospitals.

H0: There are no significant differences at the level of $P\text{-value} \leq 0.05$, between practices regarding self-medication, and socio-demographic characteristics among parents of the children in Ramallah & Al-Bireh hospitals.

1.5 Research Aim

The aim of the study is to assess the Knowledge, Beliefs, and Practices of Self-Medication in Children by their Parents in Ramallah and AL-Birah hospitals.

1.6 Research Objectives

The objectives of this study include the following:

1. To evaluate the parent's level of knowledge regarding self-medication in Children.
2. To assess the parent's beliefs regarding self-medication in children.
3. To identify the parent's practices regarding self-medication in children.
4. To determine the factors associated with the self-medication in children by Palestinian parents in Ramallah & Al-Bireh.
5. To determine the relationship between knowledge, beliefs, & practice regarding self-medication in children, and socio-demographic characteristics among parents of the children in Ramallah & Al-Bireh hospitals.

1.7 Research Questions

1. What is the parent's level of knowledge regarding self-medication in children?
2. What are the parent's beliefs regarding self-medication in children?
3. What are the parent's practices regarding self-medication in children?

4. What are the factors that associated with the self-medication in children by Palestinian parents?
5. Is there any significant difference between knowledge, beliefs, & practice regarding self-medication in children, and socio-demographic characteristics among parents of the children in Ramallah & Al-Bireh hospitals?

1.8 Variables

Dependent variables: knowledge, beliefs and practice regarding self-medication.

Independent variables: age, gender, type of family, marital status, level of education, employment, monthly income, and indications for use.

1.9 Conceptual framework

It is known that the Knowledge, Beliefs and Practice model is a common tool for collecting data from participants. The researcher prepared the conceptual framework of parent's knowledge, beliefs, and practices regarding self-medication in children; see Figure (1.1).

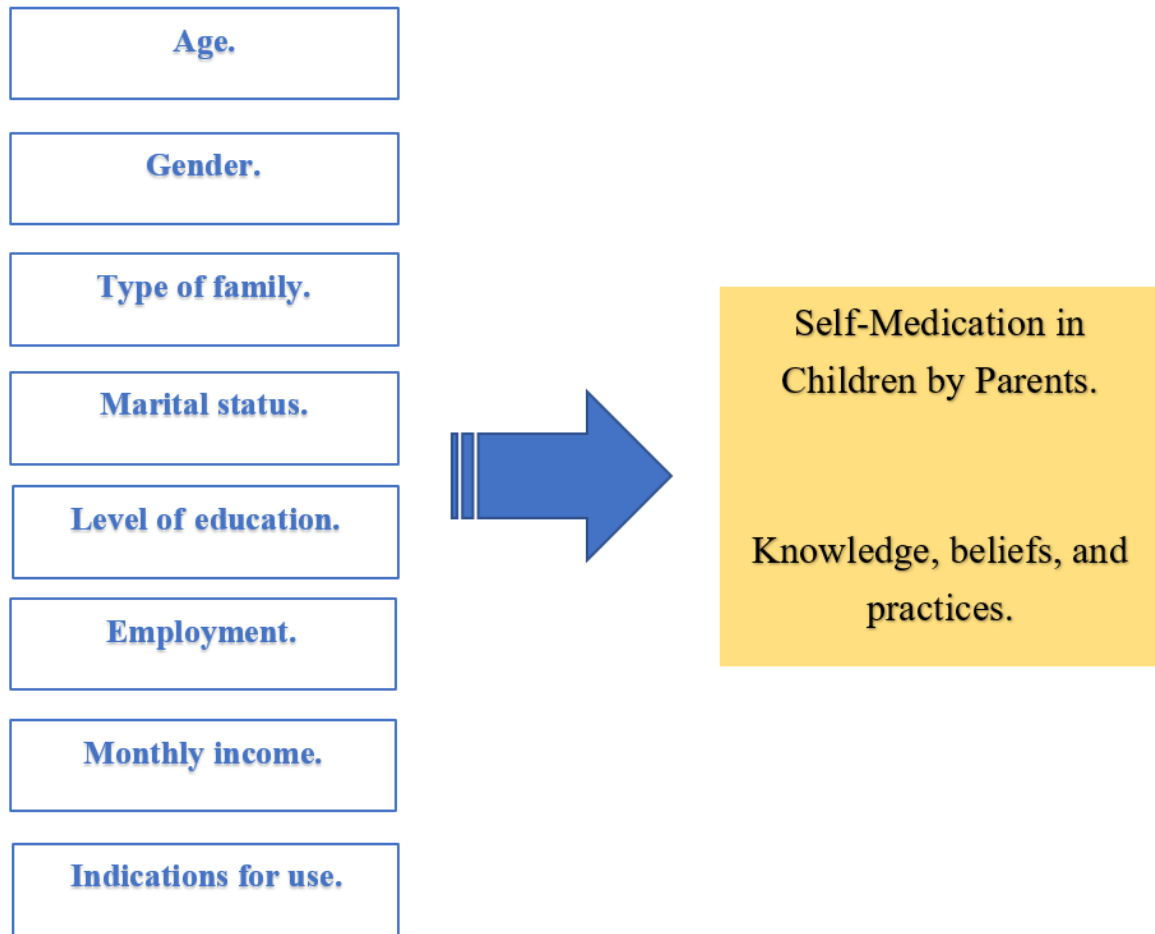


Figure 1.1: Conceptual framework of parent's knowledge, beliefs, and practices regarding self-medication in children.

1.10. Study definitions

Table 1.1: Conceptual and operational definitions.

Variable	Conceptual definitions	Operational definition
Knowledge	“Knowledge is a familiarity, awareness, or understanding of someone or something, such as facts, information, descriptions, or skills, which are acquired through experience or education by perceiving, discovering, or learning” (Echtelt, 2021).	Knowledge in this study refer to the awareness or understanding of the parents about self-medication including (non-prescription medications, medication action, body resistance, dependency, complication, and reading & understanding of leaflets in the medication pack). The questions in this part are answered by selecting one of the following: right, wrong, and uncertain.
Beliefs	“A belief is an idea that we hold as being correct. It is an acceptance that something exists or is true, whether or not there is proof or evidence. For example, a belief that the earth is round or that fairies exist” (Gurteen, 2022).	A belief in this study refer to the attitude of parents regarding self-medication. The questions in this part are answered by selecting one of the following: strongly agree, agree, uncertain, disagree, and strongly disagree.
Practices	“It is the repetition of an action, behavior, or sequence of activities, frequently as an ordinary part of a person's life” (Lammi, 2018).	A practice in this study refer to actions of parents regarding self-medication, or parents' repetition of self-medication for their children. The questions in this part are answered by selecting one of the following: strongly agree, agree, uncertain, disagree, and strongly disagree.

1.12 Contexts of study

1.12.1 Socio-demographic context

Ramallah is located within the Jerusalem Mountain range and rises between 830-880 meters above sea level. It is about 15 km from the city of Jerusalem, and about 45 km from the Mediterranean coast to the east. It is surrounded by mountains from the east and south. The site of Ramallah lies in the middle of historical Palestine, as it is 36 km from Nablus to the south, from Jenin 63 km to the south, from Hebron 82 km to the north, from Gaza 82 km to the northeast, from Jaffa 45 km to the east, and from Haifa 105 km to the southeast (Al Jazeera, 2015).

The city of Al-Bireh is located 16 km north of the city of Jerusalem, and on the main road that connects Jerusalem with the city of Nablus. It is located on a slope that rises (860 meters) above sea level, and it is in the middle of the mountainous sector line in Palestine, which extends from north to south. The site of Al-Bireh occupies a center in the heart of Palestine, especially in the middle of it is the mountain range that extends from north to south, which gave it a beautiful view, whether of the coastal region from the west, or the valley region from the east. Al-Bireh is located at a distance of (164 km) from the northernmost point in occupied Palestine (Al-Matula), and about (259 km) from the last site in the south of occupied Palestine (Umm Al-Rashrash) on the Gulf of Aqaba, and it is about (67 km) from the city of Jaffa, and it is About 52 km from the shores of the Dead Sea to the east (Al-Bireh Municipality, 2019).

According to the Palestinian Central Bureau of Statistics, the estimated population in the middle of the year 2022 for the Ramallah and Al-Bireh Governorate was 362,602 people, and it is expected that the number will reach 392,363 in the middle of 2026 (Palestinian Central Bureau of Statistics, 2021).

Registered Live Births in Ramallah & Al Bireh 8500 (4457 males and 4043 females) in 2020 (Palestinian Central Bureau of Statistics, 2021).

1.12.2 Health context

The Ramallah and Al-Bireh governorate includes many governmental and private hospitals, the most prominent of which are: Palestinian Medical Complex, Patients Friends Society (Abu Raya Rehabilitation Center), HCLinic Specialty Hospital, Istishari Arab Hospital, Al-Razi Hospital for Ophthalmology, Mercy Maternity Hospital, Arab Care Specialist Hospital, Sheikh Zayed Hospital, Sheikha Fatima Bint Mubarak Hospital, Al-Mustaqbal Hospital, Palestine Red Crescent Society Hospital, Khaled Surgical Hospital, Muslim Specialist Hospital, The Hugo Chavez Ophthalmic Hospital, Al-Nazer Maternity Hospital .. etc.

The Hospital Rate in Ramallah & Al Bireh is 2.6 hospitals per 100,000 of Population. And the Bed Rate is 17.8 bed per 10,000 of Population (Palestinian Health Information Center, 2021).

In 2020, there were 56 primary health care centres in Ramallah and Al-Bireh governorate affiliated to the Palestinian Ministry of Health. These centres offer a range of health services, including specialized services, laboratory services, high risk pregnancy service ... etc. Furthermore, 1992 citizens in Ramallah and Al-Bireh governorate benefited from the services of dental clinics (Palestinian Health Information Center, 2021).

Also, in Ramallah there is the Central Laboratory for Public Health; In this laboratory, food, medicine and drinking water are tested for safe human consumption. Neonatal screening samples are also screened for phenylketonuria (PKU) and thyroid stimulating hormone(N-TSH). Serological tests are also carried out for some viral diseases and DNA including Corona viruses testing. Moreover, the histopathology tests are conducted in Palestine Medical Complex in Ramallah governorate (Palestinian Health Information Center, 2021).

The number of pharmacies in Ramallah and Al-Bireh governorate reached 816 pharmacies; with the Pharmacists Rate is 23.5 Pharmacist per 10,000 Populations (Palestinian Health Information Center, 2021).

Chapter 2

Literature Review

Chapter 2

Theoretical framework and literature review

2.1 Theoretical framework of Self-medication

2.1.1 Definition of Self-medication

According to WHO's definition, "self-medication involves the use of medicinal products by the consumer to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of medication prescribed by a physician for chronic or recurrent diseases or symptoms" (Araia et al., 2019). It is one of the basic parts of self-care, described by the usage of the medications by the patient initiative with no consulting a medical physician (Mohammed et al., 2021).

2.1.2 Reasons for Self-medication

Self-medication is extremely widespread, and numerous reasons could be listed for it. The overall reasons that responsible for growing trend of self-medication are desire to take care of oneself, availability of medications in places other than pharmacies, extensive advertisement, misbelieves, ignorance, financial constraint, lack of health services, lack of time, and feeling sympathy for family members in illness (Bennadi, 2014).

2.1.3 List of medications utilized for self-medication

Category	Drugs
Cough and cold	D-cold total, corex, benadryl, glycodin
Analgesics	Saridon, disprin, diclofenac, nimesulide, paracetamol, ibuprofen
Antipyretics	Calpol, crocin
Antiseptic	Dettol, boroplus
Antibiotics	Ciprofloxacin, norfloxacin, amoxicillin, cefadroxil
Others	Dabur chyawanprash

Figure 2.2: List of medications utilized for self medication (Bennadi, 2014).

2.1.4 Benefits and risks of self-medication

Numerous advantages have been accompanying to proper self-medication, includes reduced (or at least optimized) burden of governments due to health expenditure related to the treatment of mild health conditions; better usage of pharmacists and physicians' skills; the active role of the patient in his or her own treatment; and increased access to medication and relief for the patient. But self-medication is far from being a totally safe way, in particular in the case of non-responsible self-medication (Ruiz, 2010).

As for risks, potential risks of self-medication practices contain risk of abuse and dependence, masking of a severe disease, improper choice of treatment, incorrect dosage, incorrect manner of administration, dangerous drug interactions, infrequent but severe adverse reactions, delays in seeking medical advice when needed, and incorrect self-diagnosis (Ruiz, 2010).

2.2 Literature review

2.1.1. Introduction:

The researcher reviewed a lot of studies at the local, regional, and global level by a study of a previous literature or studies concerned with the Self-Medication among children. The literature involves reading and analysing documents and information from various sources, such as the Palestinian Ministry of Health, annual reports and books from the various organizations, numerous interviews with health education experts, previous topics, thesis, published articles, etc.

Over the counter medicines (OTC) are medications allowed for self-medication (SM) since they are simply understood and often self-limiting by patients and the medicine is deemed to be safe and efficient. These OTC medications are common for paracetamol and low-dose NSAIDs for pain management. However, SM is not restricted to OTC medications, as prescription medications are self-medicated for patients. These are medications that may be given or taken directly from local pharmacies, without a prescription, from prior treatment episodes. In principle, the latter is not permitted. In many nations, however, it is not strange, particularly for the short-term therapy of

common conditions, to provide pharmacists of prescribed medications without a prescription.

Self-medication has grown fairly prevalent and prevalent in poorer nations (Rather et al., 2017). In poorer nations, individuals use OTC items like SM, but are also non-supervised prescription medications such as SM goods. SM has been examined in several populations, which shows that 25-75 percent of the population use SM medications (Al-Wazaify & Albsoul-Younes, 2005). In Eastern Mediterranean nations, SM is widely widespread in the community. Medications may readily be bought without a prescription in the Middle East, which might lead to possible overuse and excessive danger. Patients may utilize pharmaceutical medications without a prescription; utilize outdated prescriptions; exchange medicinal products with friends/relatives and utilize the remaining prescription medications.

2.1.2. Search strategy:

Databases, such as Web of Science, Google scholar, Cochrane Library and PubMed were used to identify studies dealing with the self-medication among parents for their children. Search terms were identified and used to identify articles.

The words/strings used for search and inclusion criteria were as follows: using combinations of the following terms: “over the counter”, “Misuse”, “non-prescription”, “self-prescription medicines”, “prescription medicines”, “parent”, “abuse”, “children”.

2.1.3. Previous studies:

Local studies

Regarding Palestinian studies, Zyoud, et al. (2019) performed cross-sectional study in Palestine to assess Palestinian parents' KAP towards self-medication for their children. 500 people interviewed agreed to use medications for their children as self-therapy by 357 (73.4 percent) total parents. Previous experience was the most prevalent cause for self-medication (54.6 percent). Antipyretic medicines (95%) and skin creams (46%) and anti-cough and anti-influenza medications are the most often used in self-therapy (44.2 percent). There was inadequate parental understanding about toxicity. Some 70 percent of

parents, for example, feel that paracetamol and multivitamin in overdose instances are not deadly. Parents in Palestine are commonly used for children's self-medication. Parents have been highly likely, in particular with antipyretics, to self-medicate their children. In addition, a substantial number of parents utilized antibiotics without a prescription. Specific rules should thus be set for proper self-therapy. Pharmacists need to be encouraged to teach parents on how to administer medicine properly and at the right time as well as when the amount is harmful.

Moreover, another Cross-Sectional study was conducted by Abu Tayyem (2017) on 303 participants and showed that 65.3% ($n = 198$) of the participants used the medication as self-treatment for their children without consulting a doctor. Most of the participants (81.5%) had used over-the-counter antibiotics in the past two years ($n = 247$). Most of the participants were not aware of the risks of not completing the antibiotic treatment and also using an alternative antibiotic to the one prescribed by the doctor because it was not available in the pharmacy near the place of residence. The results indicate that the participants who practice self-medication resorted to the pharmacy (68.6%) as a main source of self-treatment. The extent of self-medication and its relationship to the economic situation showed statistical significance, as most of the subjects who resorted to self-medication from high-income (66.7%). The highest reason for using antibiotics without a doctor's prescription was for use in ear, nose, and throat infections (53.5%).

Also, there was a cross-sectional study that done by Al-Ramahi (2013) and showed that self-medication practices have been frequent among families in Palestine. Self-medication was informed by 87.0% ($n = 348$ participants) of interviewed cases, amongst them 224 participants (56.0%) utilized at least one medication with no consulting a physician in the previous month. The greatest popular category utilized in self-medication were analgesics by 317 participants (79.2%) participants, followed by flu medications (233 participants, 45.3%), and antibiotics (132 participants, 33.0%). Most participants said that they preferred medications based on self-decision and previous usage (233 participants, 58.2%). Another important factor was advice received from pharmacists in 216 participants (54.0%). The greatest frequent causes for self-medication were their

ailments being minor (participants 341, 85.2%) and they had this health problem before 198 (49.5%).

Regional Studies

As for regional studies, according to a cross-sectional study of Eldalo et al. (2022) in Sudan, the most important reasons of self-medication amongst parents were the long waiting time in the clinics and the expensive consultation fees. More than one-third of children had received parental self-medication in the month prior this research. Most parents (84%) in this research used to recommend western medications to their children. The findings showed that parents in 95.7% cases, self-medicated their children from mild diseases. The antibiotics is the most common utilized medications by 36.6% followed by paracetamol by 31.5%. Also, 39.7% informed that the most frequent symptom was fever. If self-treatment failed, 64.0% of participants used physician consultation in public settings, while 8.0% sought advice from community pharmacists.

Mallah, et al., (2020) carried out cross-sectional study to recognize the link between antibiotics and antibiotic misuse in Lebanon levels of knowledge and beliefs. The study discovered that 277 individuals (16 percent) had recognized the use of antibiotics in the previous month, 41 percent of them indicated at least one misuse activity, utilizing the questionnaire of anonymous self-administered knowledge, attitude, and practices. Beliefs and misconceptions regarding antibiotics significantly raised the chances of their abuse. Subjects who felt that antibiotics were beneficial in treating viruses, sore throat or common cold had double the likelihood of misuse medications, for example. Also, the risk of parents using antibiotics in their homes for future usage is exacerbated by insufficient awareness and misconceptions about antibiotics, which relate to greater probabilities of antimicrobial misuse.

Alsuhaibani and Alsuhaibani (2020) performed cross-sectional research in Al-Qassim Region, Saudi Arabia to investigate parents' knowledge, attitude, and practice regarding self-medicating their children. It demonstrated that there is generous usage for OTC medication for children by their parents. Synthetic medications were largely used by the parents to their children (86.1%), meanwhile 29.3% of the participants self-medicated

their children more than 4 times a year. The most frequent indications for using OTC medication were fever (64.7%), and influenza (50.3%). With respect to parents' behaviours, 59.3 % of them attended a hospital in cases where the child did not make progress with self-medication. The basic sources of medications were administered by the hospital (48.6%), and pharmacy (27.4%), with paracetamol being the most commonly utilized (82.5%).

Shadi, et al., (2019) performed cross-sectional study to assess the knowledge and attitude of parents in the Western area of Saudi Arabia about the usage of antibiotics for children with upper respiratory tract infections (URTIs). Of the 820 responders, over 98% agreed that antibiotics may be misused and roughly 74% said medications are not beneficial for viral illnesses. However, 32, 3% said that antibiotics can improve viral illness recovery. At parents with greater education, parents with higher monthly incomes and children's parents in both private and foreign schools, knowledge was better. Nearly 35 percent claim that their children have self-prescribed antibiotics at least once and roughly 13 percent have self-prescribed antibiotics. The survey revealed that the Western Region of Saudi Arabia has indicated good awareness and favourable behaviours towards the usage of antibiotics in children.

Mukattash et al. (2019) conducted exploratory study with qualitative methods aimed to assess parents' attitudes and practices about self-medication of their children in Jordan. In-depth interviews were conducted with 26 parents from various Jordanian regions. The data indicated that Jordan is frighteningly high in self-medication. Furthermore, misunderstandings and abuse of medications are regarded as a big concern. The familiarity of parents with diseases and medications determines self-medication behaviours.

Kutrani et al. (2019) performed cross-sectional study to assess parents' knowledge, behaviors, adherence, information seeking, and antibiotic resistance awareness in Libya. Participating were 283 parents. Most of them had inadequate knowledge and faith, bad antibiotic conduct, and a poor consciousness of the resistance to antibiotics. On the contrary, the majority felt that antibiotics would treat all sorts of diseases. Only 16.6%

recognized that antibiotics could treat bacterial illnesses. However, most parents acquire information from health care practitioners concerning antibiotics.

Al Baz, et al. (2018) performed cross-sectional research to assess the knowledge, attitude, and behavior of Palestinian refugees visiting UNRWA health Centers in Jordan regarding antibiotic usage in order to prepare public health interventions appropriately. Irrational antibiotic usage has been prevalent: 63% of patients share medications, 38% take over-the-counter antibiotics and 60% buy antibiotics straight from the pharmacy (OTC). Knowledge of the side-effects, resilience and target agent antibiotics was also inadequate. Nevertheless, many hours of waiting restrict 90 percent patients from obtaining medical advice that increases self-medication considerably.

Mohamed et al. (2018) conducted cross-sectional research in Egypt to assess parents' knowledge, attitude, and practice (KAP) about the antibiotic's usage in URTIs in children. A finding reveals that there is a statistically considerable differences between mother and father; they were lower in fathers. There are also statistically significant differences in the practice score between parents of different ages. There are statistically considerable differences between women who share attitudes and do not share in profession. Parents with low educational levels, remote homes, and poor incomes and with two or less children lack information, misconceptions, and behaviour therefore they are prone to their children's misuse of antibiotics.

Al-Shawi et al. (2018) conducted cross-sectional research in Saudi Arabia aimed to investigate the misunderstandings of parents of primary school children about the usage of antibiotics for upper respiratory tract (URT) symptoms. 67% of the parents acknowledged to self-prescription again or again and the main cause for self-prescription was that they considered the children were not sick enough to go to a health care center (41.8 percent). Then there were 37.7% who utilized "remain residues." With respect to the attitude to antibiotic prescription, 62, 5% agreed that children with fever and nasal congestion should not be treated with an antibiotic. Moreover, 63.5% agreed to give your youngster antibiotics for discomfort in the ear or throat. About two thirds agreed that a virus was responsible for upper respiratory tract (URTI). Those who got their knowledge

through primary health facilities and general practitioners had the lowest average of overall knowledge, while the maximum information was received from social media and websites. Multiple linear regressions showed that parents with high-income, high-school children had better knowledge and a very favorable practice and attitude about the antibiotic's usage.

According to Khalifeh et al. (2017) a systematic literature review about Self-medication misuse in the Middle East. The community has seen an extremely high prevalence of self-medication, 68.1 percent in Pakistan, 35.4 percent in Saudi Arabia, 42.5 percent in Jordan, and from 35.4percent to 83percent in Iran. Youth in various nations of the Middle East include Jordan (87%), Palestine (98%), Kuwait (92%), Emirates (89.2%), Bahrain (44.8%), and Pakistan also have a large prevalence (80.4 percent).

Also, there was a community-based survey done by El-Nimr et al. (2015) on 1100 participants to illustrate the prevalence, reasons, and pattern for self-medication in Alexandria, Egypt. It showed that most participants practiced self-medication (86.4%), largely utilizing both medications and complementary or alternative medicines (77.5%). The highly utilized medications were analgesics (96.7%), and cold and cough medications (81.9%), but 53.9% of participants stated self-medication with antibiotics. The most commonly utilized complementary or alternative medicines were herbs (91.6%), followed by spiritual healing (9.4%) and acupuncture and cupping (6.4%). According to 95.2% of participants, complementary or alternative medicines enhanced the status. The independent issues significantly impacting the practice of self-medication with medications were presence of chronic conditions, age, and career.

Moreover, across sectional study was conducted in Saudi Arabia by Eldalo (2013) to assess the parental self-medication practice and attitude toward their children. The majority of participants self-medicated their children in the month prior to the research period. The majority of participants reported that the highest self-treated symptom was fever, while the most commonly utilized medications were antibiotics and paracetamol. Males had a better and higher attitude toward treating fever than females. When self-treatment failed, the majority of participants sought medical advice from public hospitals;

there was a considerable variation in the participants' educational backgrounds. Long clinic wait times and expensive consultation fees were the primary reasons of self-medication.

According to cross-sectional study of Albsoul-Younes et al. (2012) in Jordan on 1490 participants, more than half of parents reported that they had given their children at least one OTC medication in the preceding month. Convenience and time savings were the main reasons for utilizing it. More than 90% of families thought over-the-counter medications were safe and effective. The majority of parents indicated that they consulted their pharmacist about OTC medications. Many individuals lacked knowledge of information necessary for using medications safely.

Also, there was a descriptive study than done by Mohanna (2010) in Sana'a City, Yemen to determine the prevalence of antibiotic self-medication in children presented to the outpatient department and showed that the prevalence is alarmingly high. The patients' age varied from 0 to 15 years. Of the 2000 individuals surveyed, 1200 patients (60%) had used an antibiotic without a medical prescription in the previous 15 days. The most frequently reported symptoms were respiratory (80%) and gastrointestinal (13%). 312 (26%) individuals obtained antibiotics using the prior prescription sheet, whereas 888 individuals (74%) bought antibiotics without a prescription from pharmacies and drug stores. About (85%) of the antibiotics prescribed were Amoxicillin, Amoxicillin clavulanic acid, and Trimethoprim-sulfamethoxazole.

Finally, according to observational study of Jemaa et al. (2010) in Tunisia; Self-medication was prevalent (62,5%) amongst 224 total given treatments prescribed for pediatric population. The most important classes of self-prescribed medications were anti-inflammatory and antipyretic/analgesic medications (65%), drugs acting on the respiratory tract (38%) and systemic antibiotics (48%). The highest self- medications antibiotics were cephalosporin (26%) and Amoxicillin (55%). Self-prescribed children were aged less than 1 year in 35% and according to parents, they suffer from fever in 10%, a tonsillitis/pharyngitis in 17%, and a low respiratory tract infection in 57%.

Mothers in particular (61%) and pharmacy employees (20%) were mostly to blame for self-medication.

International Studies

With regard to international studies, there was a national cross-sectional study performed by Yuan et al. (2022) in China to determine the prevalence of self-medication informed by parents amongst children aged less than 12 years in China. It included 4,608 participants and showed that a total of 1,116 (24.21%) participants informed self-medication in the preceding year. In the logistic regression model, graduate-educated parents were shown to be less likely to self-medicate their children.

According to cross-sectional study of Alonso-Castro et al. (2022) on Mexican families with children aged less than 12 years. In which, a total of 9905 completed online questionnaires, and the prevalence of self-medication was 49.6% (n = 4908). Associated factors were age, educational level, socioeconomic level, having two or more children, employment unrelated to health, unemployment, lack of medical security, and children with chronic illnesses. Participants self-medicated their children on their own initiative (28%) and at the advice of friends or family member (55.8%). The highest common symptoms were cough (34.2%) and flu/flow (47.7%). The highest utilized medication was chamomile (33.1%), paracetamol (56.9%) and VapoRub (61.3%). The major reasons for self-medication were reusing medications (51.9%) and perceiving symptoms as not life-threatening (69.9%).

Also, there was a cross sectional survey done by Sen Tunc et al. (2021) in Turkey found that most families (n=273; 70.2%) self-medicate their children for dental problems. Parents often preferred self-medication with already prescribed medications (n=179; 62.2%). The most common type of medications used by parents to self-medicate their children for dental problems was analgesics (98%).

Ahmed et al. (2021) conducted a random survey in Indonesia and showed that the reported total prevalence is 58.82%. About 35.3% of mothers with high-higher secondary school educations showed a rising tendency in self-medication. The residential region

appears to have an incidence on this practice as well; for example, self-medication is used by 58.8% of rural residents compared to 39.2% of urban residents.

According to a cross-sectional survey of Wu et al. (2021) in Wuhan, China; In the previous six months preceding the application of the study, 14.32% of the 1188 parents of children between the ages of 0 and 5 years had self-medicated their children with antibiotics. Parents are less likely to self-medicate their children on their own when perceived danger and self-efficacy levels rise.

Ge et al. (2021) carried out cross-sectional research in China to assess the probable reasons linked with self-medication in children and investigate discrepancies between rural and urban areas. The findings indicated that 38.2% of primary caregivers of rural regions 18.7% of primary caregivers in urban regions self-medicated their children. The rural primary caregivers with college degrees or higher education were less probable to self-medicate their children, whereas urban primary caregivers with college degrees or higher education were more probable to self-medicate their children. In rural and urban regions, children with unhealthy eating habits were more probable to self-medicate by their primary caregivers. Urban Primary caregivers who had to travel more than 10 minutes from their house to the nearest medical facility were more probable to self-medicate their children. Children between the ages 3-6 years old, children with chronic diseases, and primary caregivers with a monthly family salary per capita of 1001-3000 Yuan are another set of enabling issues that influenced self-medication in rural locations. The greatest contributor to the rural-urban self-medication gap was children's unhealthy eating habits.

According to a cross-sectional survey done by Tan et al. (2020) in Malaysia amongst parents of children with epilepsy. A total of 166 participants were enrolled. The findings indicated that the following factors were significantly linked with poorer medication self-management: a more complex antiepileptic drug regimen; inability to swallow tablets; presence of comorbidities; higher number of medications; and differences in ethnicity, religion. Multivariate analysis revealed that only ethnicity and existence of comorbidities

remained independently significant. Children with comorbidities showed poorer medication self-management than children without comorbidities.

According to a cross-sectional study of Ukwishaka et al. (2020), Self-medication is widespread in Rwanda. This study includes caregivers/parents regardless of socio-demographic characteristics. Self-medication was reported to be utilized by 77.9% of caregivers/parents. Around 50.8% of these caregivers/parents just utilized modern self-medication, 15.8% just utilized traditional self-medication and 33.3% utilized both types of self-medication. The highest utilized medication in modern self-medication was paracetamol, while Rwandan local herbs were the highest utilized traditional medications. Caregivers/parents who utilized modern medications had slightly more confidence in self-medication than consumers who utilized traditional medications. Caregivers/parents who utilized modern self-medication indicated barriers to consult a specialist as a cause to self-medicate more commonly than consumers who utilized traditional medications. The only sociodemographic characteristic that linked with using self-medication was having more than one child under the age of 10 years.

Also, according to survey of Tarciuc et al. (2020) in Romania on 246 participants, the authors observe that there were a sizable portion (70%) of parents provide their self-medication to their children. The results demonstrate a strong correlation between parents' attitudes on self-medication and their propensity to self-medicate their children without a doctor's prescription. Likewise, a considerable relationship was observed between the probability of parental self-medication for their children and the number of diseases suffered by their children over the six-month period preceding to the study. Even when parents have a proper awareness of negative effects of self-medication, these consequences do not match up with actual behaviour; thus, parents continue to administer medications to their children with no doctor's prescription.

According to a cross-sectional survey of Xu et al. (2020) in China; The study included 9526 parents of children ranging in age from 0 to 13 years. The results showed that One-third (n=410) of the researched children had been Self-medicated with antibiotics by their parents prior to consulting physicians and 83.9% of them were subsequently prescribed

antibiotics by physicians. Children with parental Self-medication with antibiotics were more probable to be prescribed antibiotics, including intravenous antibiotics, and both oral and intravenous, than children without parental Self-medication with antibiotics. Parents with Self-medication with antibiotics behaviours were more probable to request antibiotics including intravenous antibiotics and be fulfilled by doctors.

Katumbo et al. (2020) conducted cross-sectional study aimed to evaluate frequency of self-medication and to describe common errors risky behaviors and habits in Democratic Republic of the Congo. According to the data, 96 percent of moms self-medicate their children; the major reasons reported by moms for this self-medication are expensive medical treatment costs (84.18 percent), great distance between house and health care center (10.2 percent), and experience in life (5.61 percent). The most common symptom reported by moms was fever (91.1 percent), followed by diarrhea (32.4 percent) and cough (26.8 percent). Medications given in self-medication are particularly those previously suggested by medications seller (64 percent), stored in the home pharmacy (32 percent) or prescribed by a health professional (23 percent). Over 91 percent of the mothers use antimalarial, 4.34percent anthelmintic, 26.3percent antibiotics, and 41.3percentanalgesics/antipyretics. The large number of women (95.7 percent) doesn't have knowledge about the exact dose of the medication taken and 97.17 percent don't check the expiration date.

Elong Ekambi et al. (2019) carried out cross-sectional study to identify knowledge; attitudes and practices about usage of antibiotics in an urban area and assess the reasons that are related with usage of antibiotic in Cameroon. Overall, 402 of the 1,192 consumers (33.7%) bought antibiotics and 47% bought non-prescription antibiotics. For adult patients and nearly 60% of parents who have self-medication on their children 60.7% of the antibiotics purchased were adult patients. The great majority responded that antibiotics can be used to treat all microorganisms (88.3 percent). Antibiotics were more prevalent among highly educated persons and public/private workers in terms of their suitability for bacterial illnesses. Customers who have a prescription compared to those without a prescription have been provided 7 times more indications on antibiotics. Self-medication was substantially linked to adult male and higher education. The inadequate

prescription and dispensation of antibiotics in Cameroon is confirmed by misuse, limited "practical understanding" and excessive self-medication.

According to cross sectional-study of Coleman (2018) in Ghana, in community pharmacies 66.0% of pharmacists give antibiotics to parents with no doctor's prescription. There were no statistically significant differences between dispensing of antibiotics without doctor's prescription and professional categories. The penicillin antibiotics (amoxicillin and amoxicillin clavulanic acid) were the most often utilized medications in the treatment of self-limiting diseases. But a significant relationship was found between pharmacist's willingness to dispense antibiotics to parents of children under the age of five and parents demand for antibiotics & knowledge of medications classification based on the FDA's reviewed medications classification.

Cristescu (2018) conducted a retrospective study using a questionnaire focus on parents of children beneath the age of 12 years, who joined three kindergartens and three primary schools, in Timisoara, Romania. From 564 respondents, moms between the ages of 30 and 39 years with college degrees have most commonly resorted to self-medication (71.27%), by going to the family medications kit (83.61%). The greatest widespread symptoms for which parents applied self-medication were pain, fever, and cough; while the most commonly utilized medications were nasal decongestants (40.14%), nutritional supplements and vitamins (49.14%), antitussives/expectorants (83.84%), and antipyretic analgesics (92.74%). Doctor, the pharmacist, and the data booklet of the medication were the major sources of parent's information. According to the study, self-medication is more common in children below the age of 12 years (81.02%), even with medications outside the pediatric guidelines.

Horumpende et al. (2018) conducted a cross- sectional study among 300 residents in a rural region in Tanzania. The majority of participants (58%) acknowledged using self-medication. The highly used antibiotics were an antiprotozoal medication "metronidazole" (10%) and amoxicillin (43%). The greatest widespread symptoms that led to self-medication were diarrhea (21.59%), malaria / fever/ headache (25.57%) and cough (51.17%). The greatest frequent reasons for self-medication were the distance

between the pharmacy and home (17.00%), health facility fees (20.33%), emergency diseases (24.00%), and without a reason (16.66%). The vast majority of people responded that getting medical advice is preferable to self-medicating, 98% reported that self-medication can result into negative consequences and 96% reported that self-medication can result into medication resistance.

Chang et al. (2018) conducted cross-sectional research amongst children in urban China to identify caregivers' knowledge gaps and unfavourable attitudes about antibiotic usage. About 48.2% of participants indicated using antibiotics for children without a prescription in the previous six months. Community pharmacies and leftovers are the most prevalent sources of antibiotics utilized without doctor's prescription. Antibiotic storage at home and caregivers' supportive attitude were strongly and significantly correlated with non-prescription antibiotic usage among children, but caregiver knowledge of prescription-only regulation on antibiotics sales at community pharmacies was significantly inversely associated. In spite of their little knowledge of antibiotic usage, a substantial percentage of primary caregivers in urban China self-medicate antibiotics for children.

Islam et al. (2018) conducted cross-sectional research in Bangladesh to examine the parent's attitude, knowledge and practices regarding antibiotics usage for their children and relate it with the gender, level of education and prior usage of antibiotics. A total of 1160 parents were included. Only 17.25% of parents from total respondents recognized what antibiotic resistance meant, and only about 15.51% of respondents correctly identified that antibiotics are being used to treat diseases caused by bacterial infections. The majority of respondents (70.68%) understood that giving children antibiotics with no doctor's prescription may be harmful. Approximately 67.79% of parents stated that they never utilize leftover antibiotics from a previous prescription without consulting the doctor. There are misunderstandings regarding the usage and indications of antibiotics. There was a prevalent lack of knowledge about antibiotic resistance. However, individuals were aware of the dangers related to antibiotic misuse.

Moreover, another cross-sectional study research performed in Lahore, Pakistan by Gohar et al. (2017). It randomly recruited a total of 400 parents. The prevalence of self-medication in children by their parents was 77.25%, with a female and male ratio of 51% to 49%, respectively. Awareness about self-medication was 66% amongst all respondents, and this practice was 47% among children between the ages 1 to 5 years. Most frequent reasons for self-medication were allergies, diarrhea vomiting, flu, cough, and fever. Commonly utilized medication classes involve antiallergy, antiemetics, antimicrobials, cold & cough preparation, and antipyretics. Additionally, it was found that 45% of respondents utilized self-medication 3-4 times per year and the major reasons for this practice were leftover medications, financial constraint, lack of time, previous experience, and + perception of illness. The frequent source of self-medication were medical stores, friends, family members, and old prescriptions. Furthermore, it was found that 63% of respondents report to doctor regarding self-medication their children; 57% of respondents informed feeling better after self-medicating, while 18% informed that the condition of their children became worse. Out of all responders, 56% agreed that self-medication is dangerous for children.

Also, Solangi et al. (2016) conducted cross-sectional survey to assess the Pakistani parents' knowledge, attitudes, and practice in relation to self-medicating their children. In which 44.55% (n=45) respondents were university graduates. Panadol (paracetamol) were the most common medications utilized by 83% (n=84). The most frequent self-medicated symptom was cold & cough 72.27% (n=73). In case of self-treatment failure, the majority of respondents have a tendency to seek advice from general practitioners in private clinics 61% (n=62), although 31% (n=31) of respondents consult pediatric specialists in hospitals. For 91.0% (n=92) of the respondents, doctors were the primary source for information. The high consultation costs and lengthy clinic wait times were the most often cited reasons for self-medication. A sizable portion of respondents disagreed that health care employees had bad attitudes or that the information they were given was insufficient. A further noteworthy finding was that 51.4% (n=52) of respondents believed they could diagnose their child's diseases based on their symptoms.

In addition, there was a descriptive survey conducted by Havens and Schwartz (2016) in Omaha, Nebraska, to assess parents' perceptions of antibiotics to better understand the obstacles associated with judicious antibiotic usage and for selection of educational resources. A total of 170 respondents who completed questionnaires were assessed. Almost all respondents (97%) argued with the statement "antibiotics are required for the common cold," and 90% agreed that antibiotics treat bacterial infections. Parents did not anticipate receiving an antibiotic after being examined for a common cold. A total of respondents informed that they "never" go to another physicians when antibiotics were not prescribed. The respondents who completing this questionnaire were had a good knowledge about antibiotic usage.

Finally, according to cross-sectional study of Yu et al. (2014) in vaccination clinics in two rural Chinese regions. Of the 854 primary caregivers who took part in the study, 79% believed that antibiotics might treat viral infections and 50% thought that antibiotics might decrease the duration of upper respiratory tract infection. A median of two hospital visits were informed by parents for their children in the duration of the preceding 6 months, equivalent to the median number of antibiotic prescriptions received from doctors. About 62% of respondents have given antibiotics to their children as a self-treatment. Good adherence to doctors' advice, storing antibiotics at home, buying antibiotics with no doctor's prescription, increasing the age of child, raising more than one child, and living in rural villages were independently linked to the practice of self-medication.

2.1.4. Summary:

After reviewing all previous studies, the researcher found that the practice of self-medication in children by their parents not compared between geographic area of living such as urban, bedew or rural area, also the doses of medication did not mentioned in all studies which is serious matter, failure to know the precise dose of medications to be delivered to children can lead to under or overdose since the lack of this information can both have serious effects. This is a major concern because children are more vulnerable to the adverse effects of medications especially if they are used inappropriately.

Also, studies do not mention the law in each country about self-medication and compliance to law these findings highlight the significant of the implementation and development suitable strategies for the responsible usage of antibiotics for health-care practitioners and health-education programs aimed at community people.

Chapter 3

Methodology

Chapter 3

Methodology

3.1 Research Design

This study is considered a quantitative, descriptive, cross-sectional design.

As the quantitative method is the method of gathering, evaluating, analysing, and reviewing numerical data. It is used to find associations and correlations, patterns, and averages, examine causal relations, make projections, and generalize results to larger populations (Bhandari, 2022). On the other hand, “the descriptive study design is a scientific approach that entails describing and monitoring a subject's behaviour without affecting it in any manner” (Shuttleworth, 2008).

3.2 Study Population

The study population for this research includes all families who live in Ramallah & Al-Bireh governorate and have children under the age of 12 years. According to the data from Palestinian Central Bureau of Statistics, the total number of these families is around 17400 family (Palestinian Central Bureau of Statistics, 2021).

3.3 Study Setting

This study was conducted in Ramallah & Al-Bireh governorate at pediatric departments in the following hospitals (Palestinian medical complex, Al-Mustaqbal Hospital, Al-Isteshari hospital, and Palestinian red crescent hospital in Al-Bireh).

3.4 Study Period

The study period was displayed in Table 3.1. it shows that the proposal was approved at the end of January 2022; Research tool developed during February 2022; Ethical approval was obtained September 2022; Sample selected, Pilot study, and Data collection started in September 2022 and finished at the end of October 2022; Data entry and analysis performed in November 2022; and Writing thesis began after the proposal is approved and continued until November 2022.

Table 3.2: Study timeline.

Items	Period
Proposal approval	January 2022
Developing research tool	February 2022
Obtaining ethical approval	September 2022
Selecting sample, pilot study, and data collection	From September 2022 to October 2022
Data entry and analysis	November 2022
Writing thesis	From January 2022 until November 2022

3.5 Sample Size

The sample size includes 376 parents who live in Ramallah & Al-Bireh governorate and have children under the age of 12 years. The participant's number was calculated by using Sample Size Calculator (Annex 1). Which helps to detect the accurate sample size.

3.6 Sampling Technique

Regarding to sampling, convenience sampling was used, whereas a total of 376 parents were conveniently selected; the parents who were come to Ramallah & Al-Bireh hospitals at the days of the researcher visit and who agree to participate in the study were selected.

3.7 Inclusion Criteria

- All parents who living in Ramallah & Al-Bireh governorate.
- All parents who have children under the age of 12 years.
- All parents that available at the study period and agreed to participate in the study.

3.8 Exclusion Criteria

- Any parent who doesn't live in Ramallah & Al-Bireh governorate.

- Any parent who doesn't have children under the age of 12 years.
- Any parent who are not willing to participate in the study.

3.9 Study Tool

A questionnaire (Annex 2) was used to assess parent's knowledge, beliefs, & practice of self-medication in children, and assess the association between parental understanding and self-medication. Also, clarification of the grounds for utilizing medications that are not prescribed for children is included in this questionnaire. An interview with selected parents was done in order to clarify the questionnaire and get more particular data from them.

The questionnaire was made by the researcher and then presented to the supervisor. The section on demographic factors was written by the researcher. The questionnaire was obtained from a previous master's thesis that was done by Gaheyr (2018). No written consent was required from the author because the thesis is available online for free download and use. The supervisor provided the researcher with the necessary modifications. The modifications were made by the researcher. The questionnaire was translated from English into Arabic by an English language expert (his specialty is English, and his native language is Arabic) (Annex 3). The questionnaire was also checked in Arabic by an Arabic language expert (linguistic proofreader, his native language is Arabic).

3.10 Validity of questionnaire

In order to validate the questionnaire to make the participants more responsive to the questionnaire, the questionnaire was validated by sending it together with a cover letter and a paper containing information about the study, aims, objectives and other relevant information to experts in the field to estimate and review the questionnaire regarding the clarity and completeness of each component.

The researcher also conducted a pilot study on a group of participants (n=38) and asked them about their opinions and the difficulties they faced, and about any ambiguity or problems in filling out the questionnaire.

Feedback was obtained from experts and participants. The experts' modifications were a change in the wording of some questions and making them more clear. While the participants' comments are that the number of pages was large and the font size was large. All feedback was taken into consideration, change in the wording was done, also, the questionnaire was formatted, the font was reduced, the paragraphs were formatted again, and the number of pages was reduced.

3.12 Pilot Study

A pilot analysis was carried out on 10% of the sample size (n=38), as a pre-test prior to the begin the actual data collection, in order to provide feedback on the questionnaire; check the questionnaire's reliability & validity; to estimate response rate; to assess the actual time required to complete the questionnaire; to identify topic recruitment; to know areas of vagueness; to identify language weaknesses; and to gain evident opinion on the questionnaire in order to avoid question ambiguity & length. After confirming that there is no significant amendment after piloting the questionnaire, those respondents were added to the total participants.

3.11 Reliability of questionnaire

The reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring. The test is repeated to the same sample of people on two occasions and then compares the scores obtained by computing a reliability coefficient. Can be achieved by using Cronbach's Alpha coefficient and Table 3.3 shows the values of Chronbach's Alpha for each questionnaire domain of participants. The table illustrated the reliability of domains; values of Chronbach's Alpha were in the range of 0.809 and 0.943 Cronbach's alpha equals 0.939 for the entire questionnaire in the pilot sample, which indicates the good reliability of the entire questionnaire.

Table 3.3: Reliability of the research for each domain of the questionnaire.

No.	Domains	No. of item	Cronbach's Alpha
1.	Knowledge of self-medication	7	0.943
2.	Beliefs of self-medication	7	0.826
3.	Practice of self-medication	6	0.938
4.	Self-medication	8	0.809
Total		27	0.939

3.11.1 Half-Split Method

As shown in table (3.4), the correlation between forms was 0.964 and Unequal Length Spearman-Brown Coefficient was 0.982 and finally, Guttman Split-Half Coefficient was 0.982. This result ensures the high reliability of the questionnaire.

Table 3.4: Split and half for each domain of the questionnaire.

Split half			R
Cronbach's Alpha	Part 1	Value	0.877
		N of Items	14
	Part 2	Value	0.878
		N of Items	13
	Total N of Items		27
Correlation Between Forms			0.964
Spearman-Brown Coefficient	Equal Length		0.982
	Unequal Length		0.982
Guttman Split-Half Coefficient			0.982

3.11.2 Internal Consistency

To check internal validity, the researcher calculated the correlation between each item and the corresponding domain. Tables (3.5) and table (3.6) present the correlation coefficient for each item of a domain and the total of the corresponding domain. The P-values are less than 0.05 in most items; thus, the correlation coefficients of most items are significant at $\alpha = 0.05$, therefore it can be said that all items of each domain are consistent and valid to measure what was set.

Table 3.5: Correlation coefficient of every question of Knowledge related to the total score of domains.

Items	Statistical test	
	r	P-value
Knowledge of self-medication		
Q1	0.785	0.000**
Q2	0.861	0.000**
Q3	0.926	0.000**
Q4	0.927	0.000**
Q5	0.875	0.000**
Q6	0.917	0.000**
Q7	0.785	0.000**
Beliefs of self-medication		
Q1	0.649	0.000**
Q2	0.622	0.000**
Q3	0.787	0.000**
Q4	0.671	0.000**
Q5	0.821	0.000**
Q6	0.639	0.000**
Q7	0.441	0.005**
Practice of self-medication		
Q1	0.807	0.000**
Q2	0.878	0.000**
Q3	0.954	0.000**
Q4	0.870	0.000**
Q5	0.838	0.000**
Self-medication		
Q1	0.465	0.007**
Q2	0.707	0.000**
Q3	0.647	0.000**
Q4	0.487	0.000**
Q5	0.758	0.000**
Q6	0.805	0.000**
Q7	0.726	0.000**
Q8	0.674	0.000**

Significant at $P \leq 0.001$; *Significant at $P \leq 0.05$; $P > 0.05$: Not significant; & **r: Pearson correlation.

Table (3.6): Correlation coefficient of every domain related to the total of domain

Items	Statistical test	
	r	P-value
Knowledge of self-medication	0.839	0.000**
Beliefs of self-medication	0.689	0.000**
Practice of self-medication	0.929	0.000**
Self-medication	0.729	0.000**

3.13 Data Collection

The data were collected by the researcher from pediatric departments in Ramallah & Al-Bireh governorate hospitals using a questionnaire to assess parent's knowledge, beliefs, & practice of self-medication in children, and assess the association between parental understanding and self-medication. The interview took place in the patients' room. The interview began with providing full instructions to the parents and clarifications about the study, its objectives, and the importance of providing actual answers. The interview took a place in a timely manner, and with all ethical considerations, so as not to be annoying. Parents were asked to answer a questionnaire that include questions about their socio-demographic data, knowledge, beliefs, & practice of self-medication clarification of the grounds for utilizing medications that are not prescribed for children. Note that the participants filled out the questionnaire on their own. Figure (3.3) displays the data collection process.

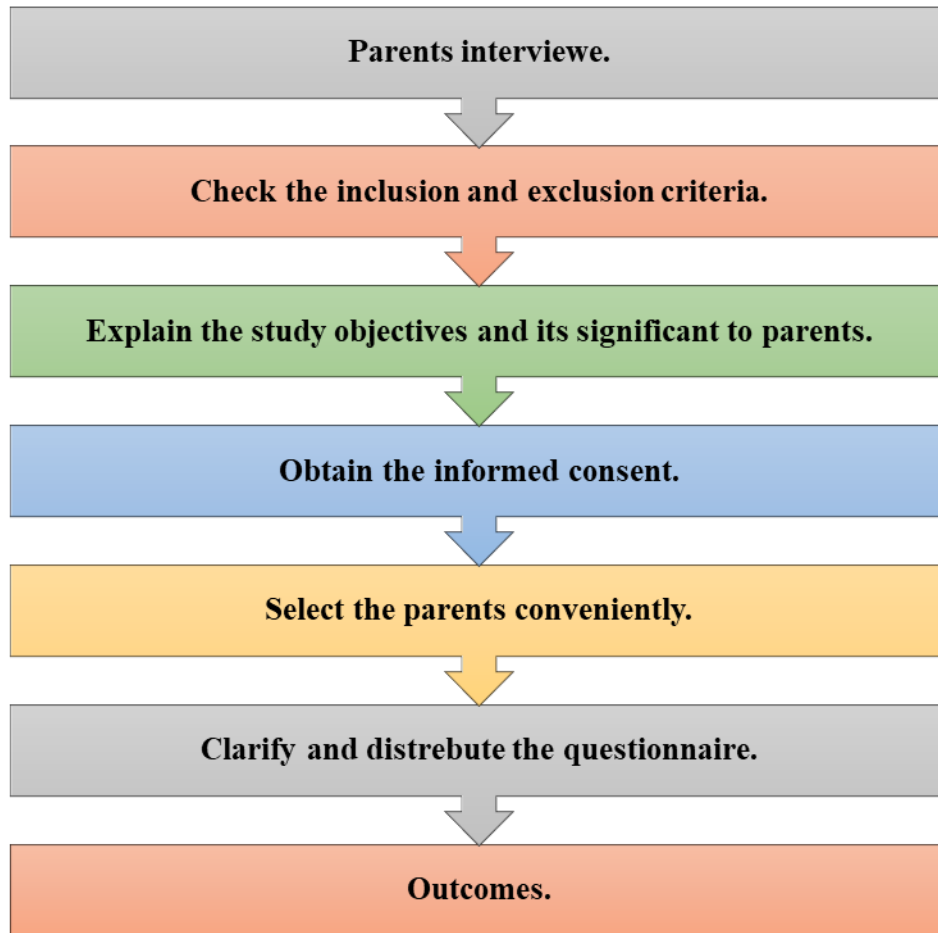


Figure 3.3: Flow chart of data collection process.

3.14 Statistical Analysis

The researcher used Statistical Package of Social Science (SPSS- version 25) program for data entry and analysis. Frequency tables were used to describe the frequency of specific characters. Some statistical tests were used as appropriate such as percentage (%), means and standard deviation (SD), t-test to assess whether the means of two groups are statistically different from each other, One way analysis of variance (ANOVA) test to determine whether there are any significant differences among the means of more than two independent groups. As well as the researcher used Person correlation (r) to test correlation between numerical data. Finally, Probability value (P-value) less than 0.05 was considered statistically significant.

3.15 Ethical Consideration

- The researcher received approval letters from Research Ethics Committee at al Quds University (Annex 4), the Palestinian MOH approval (Annex 5), and approvals from each hospital (Annex 6); as well as the consent form was taken from each parent (Annex 7).
- Before beginning the project, the researcher introduced herself to each parent, and explain the importance and goals of the study.
- Participation in the study was entirely voluntary. As a result, each parent has the option of accepting or declining, and no names or identification cards was requested.
- Information was kept confidential.
- Credibility was taken into consideration during the writing the study results.

3.16 Limitation of the study

- Time limitations.
- Lack of funding for the study.
- The lack of cooperation of some hospitals and their refusal to conduct the study in their hospital.

Chapter 4

Results

Chapter 4

Results

4.1. Overview

The present study is a cross-sectional study that included 376 respondents. The socio-demographic characteristics involved gender, age, marital status, siblings in the family, educational level, occupation, specify occupation, family income per month, relationship to the children, the usage of the child/children self-medication, and used self-medication when indicated problems.

4.2. Distribution of the study participants by gender

Figure 4.4 displays that more than two third of the study participants was female (71.3%) and 28.7% were male.

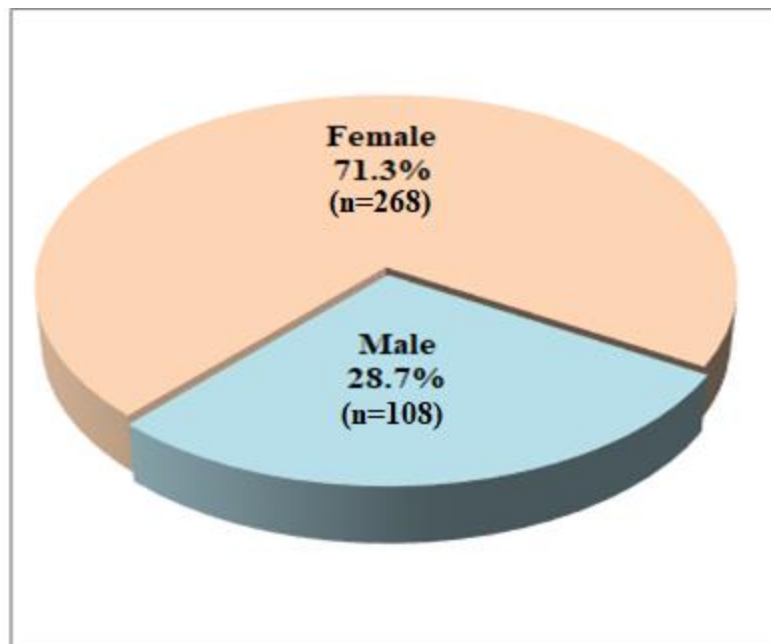


Figure 4.4: Distribution of the study participants by gender.

4.3. Distribution of the study participants by age group

Figure 4.5 point out that the high-ranking age groups among the respondents were the aged group between 30 to 39 years (42.5%) followed by 41.5% of them aged between 20 to 29 years and 9.6% of them aged between 40 to 49 years. The results show that the lowest age groups of the study responders were aged 19 or less (3.2%).and 50 years or more (3.2%).

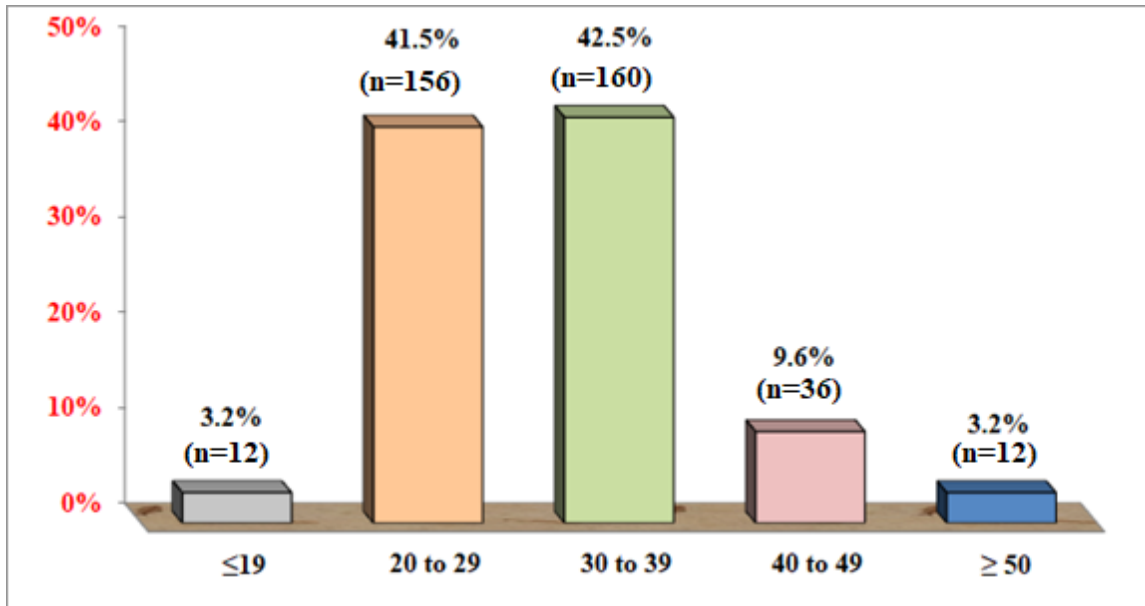


Figure 4.5: Distribution of the study participants by age.

4.4. Distribution of the study participants by educational level

Figure 4.6 illustrated that the highest educational level of the responders was finished university (45.2%) followed by 29.3% of them finished secondary school, 12.7% of them finished college, 5.3% of them finished high education, 3.2% of them finished vocational skills and 3.2% of them their education primary. The results show that the lowest education level was illiterate (1.1%).

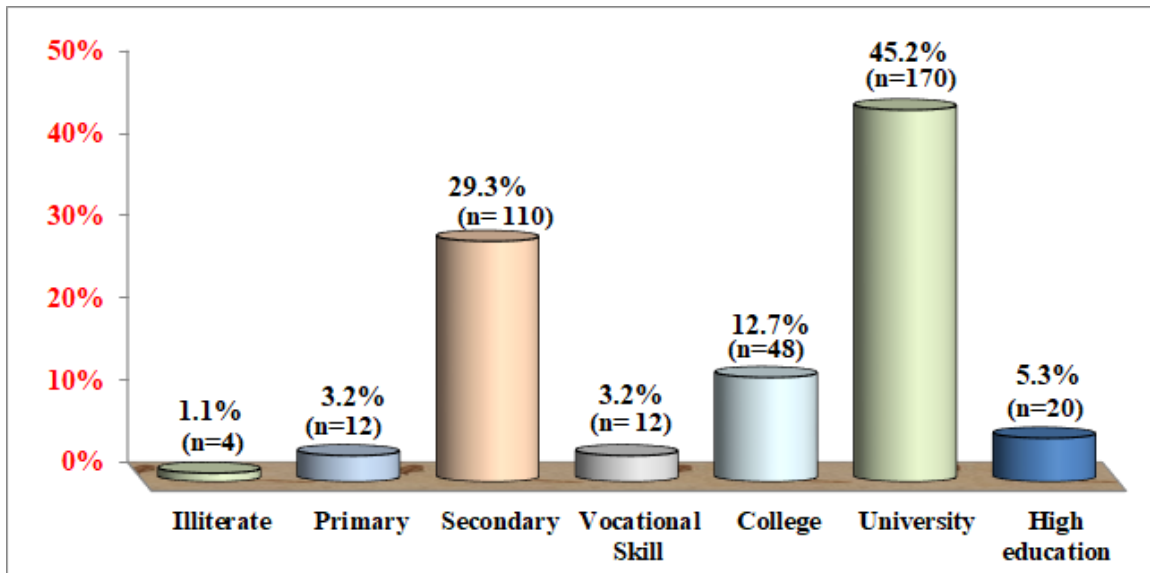


Figure 4.6: Distribution of the study participants by educational level.

4.5. Distribution of the study participants by socio-demographic

The distribution of the study population according to marital status shows that the highest percentage of respondents were married representing 96.8% while 3.2% of respondents were divorced. The results detected that most of the study respondents have siblings in the family from 3 to 5 members (43.6%) followed by 24.5% have siblings in the family from 6 to 7 members, 15.4% have siblings in the family from 1 to 2 members and 13.3% have siblings in the family from 8 members or more. The table shows that only 3.2% haven't siblings in the family (3.2%). The table pointed out that more than half of the participants was employed (52.7%) and 47.3% were not employed. The distribution of the study participants according to specific occupation shows that the highest percentage of respondents was Self-employed representing (52.9%) and 47.1% of respondents were formally employed.

The table pointed out that the majority of the study population have a family income per month of 3001 to 4500 NIS (38.3%) followed by 31.4% of them having a family income of 1501 to 3000 NIS, 23.4% have a family income more than 4501 NIS and 6.9% of them have a family income less than 1500 NIS. Regarding, relationships with the children, the table pointed out that the highest of the respondents have a relationship with the children the mother (64.9%), followed by (23.9% with) their father's relationship with the

children, (3.7%) with a brother relationship to the children. Otherwise, the findings display that the lowest of participants only 2.2% of sister have a relationship with the children.

Table 4.7: Distribution of the study participants by socio-demographic information.

Demographic data		N	%
Marital status	Married	364	96.8
	Divorce	12	3.2
Siblings in the family	None	12	3.2
	1 – 2	58	15.4
	3 – 5	164	43.6
	6 – 7	92	24.5
	≥ 8	50	13.3
Occupation	Employed	198	52.7
	not employed	178	47.3
Specify occupation	Self -employed	54	52.9
	Formal employment	48	47.1
The family income per month	Less than 1500 NIS	26	6.9
	From 1501 to 3000 NIS	118	31.4
	From 3001 to 4500 NIS	144	38.3
	More than 4501 NIS	88	23.4
Relationship with the children	Mother	244	64.9
	Father	90	23.9
	Brother	14	3.7
	Sister	8	2.2
	Other	20	5.3

4.6. Distribution of the study participants by clinical data

The distribution of the study participants according to the use of child/children self-medication shows that 43.1% of respondents used child/children self-medication. The results detected that the majority of the study population has sometimes used self-medication (42.0%) while 25.9% of them rarely and 19.8% of respondents use self-medication when a symptom is mild. The table shows that the highest groups of participants used self-medication when having fever and headache (79.8%) followed by nausea and vomiting (31.9%), cough and cold (26.6%), other's problems (26.1%),

diarrhea (13.8%), skin problem (3.2%) and the lowest groups of participants used the self-medication when having eye/ear problems (2.1%).

Table 4.8: Distribution of the study participants by clinical data.

Clinical data		N	%
The use of the child/children self-medication	Yes	162	43.1
	No	214	56.9
If the use of the child/children self-medication is yes, often do you use self-medication (n=81)	Sometimes	68	42.0
	Rarely	42	25.9
	When a symptom is in mild	32	19.8
	Other	20	12.3
I used self-medication when indicated to			
Fever and headache	Yes	300	79.8
	No	76	20.2
Nausea and vomiting	Yes	120	31.9
	No	256	68.1
Cough and cold	Yes	100	26.6
	No	276	73.4
Diarrhea	Yes	52	13.8
	No	324	86.2
Skin problem	Yes	12	3.2
	No	364	96.8
Eye/ear problems	Yes	8	2.1
	No	368	97.9
Others' problems	Yes	98	26.1
	No	278	73.9

4.7. Distribution of the study participants by measuring self-medication

Table 4.9: Scores of items measuring self-medication.

No	Items	Mean	SD	Mean %	t-test	P-vale	Rank
1	When the child (0 – 5) falls sick at home, do you give him/her medicine at home?	2.78	1.44	55.60	-3.009	0.003*	1
2	When the child falls sick at home, do you go to the medication shop/shop and buy medications to give him/her?	2.29	1.34	45.80	-10.348	0.000 *	2
3	When the child falls sick at home, do you use remaining medications from previous prescription to treat him/her?	1.76	1.20	35.20	-20.160	0.000 *	5
4	Sometimes, in the event of sickness, do you use previous prescription to buy new medications for the child?	1.77	1.18	35.40	-20.111	0.000 *	4
5	Do you buy medicine from the advice of relatives, neighbors, friends or others?	1.34	0.84	26.80	-38.323	0.000 *	6
6	How often do you decide to give the child medications at home before taking him/her to hospital?	2.07	1.27	41.40	-14.166	0.000*	3
Total		2.00	0.86	40.00	-22.423	0.000	

*Significant at $P \leq 0.05$; $P > 0.05$: Not significant; **SD**: standard deviation; **t**: One sample t-test.

Table 4.9 pointed out the distribution of the study participants by their responses about self-medication. By applying, a one-sample t-test, this table reveals that the weighted mean for the total perceptions about Self-medication was 40%. Based on the findings, the highest item was the number (1) “When the child (0 – 5) falls sick at home, do you give him/her medicine at home?” with a weighted mean equal to 55.6%, followed by the item number (2) “When the child falls sick at home, do you go to the medication shop/shop and buy medications to give him/her?” with a weighted mean equal 45.8%. While the lowest item (5) “Do you buy medicine from the advice of relatives, neighbours, friends or

others?” with a weighted mean equal to 26.8%, followed by item was the number (3) “When the child falls sick at home, do you use remaining medications from the previous prescription to treat him/her?” with a weighted mean equal 35.2%.

4.8. Distribution of the study participants by their responses about the self-medication

Table 4.10: Distribution of the study participants by their level of self-medication.

Variable and level	n (%)	Mean [‡]	(SD)	Min	Max
Self-medication		40.02	17.28	20.00	96.67
High	14 (3.7)				
Moderate	38 (10.1)				
Low	324 (86.2)				

n: number of subjects; **SD:** standard deviation; **Min:** minimum; **Max:** maximum; [‡]Maximum score of mean = **100 points**; **High**= equal 80% or more; Moderate = 60-79.9%; **Low** = less than 60%.

Table 4.10 illustrated the distribution of the study population according to their responses about self-medication. This table shows that 3.7% of the respondents have high self-medication while 10.1% of them have moderate levels of Self-medication and 86.2% of them had a low level of self-medication. Finally, the average (SD) of Self-medication levels was 40.02 (17.28) out of 100 points.

4.9. Distribution of the study participants by knowledge of Self-medication

Table 4.11: Scores of items measuring knowledge of Self-medication.

SN	Items	Key answer	Correct	Incorrect	Rank
1	Non-prescription medications require basic knowledge about medication action.	True	298 (79.3)	78 (20.7)	3
2	When a child falls sick, it is always very necessary to take him/her to qualified medical personal.	True	338 (89.9)	38 (10.1)	2
3	Non-prescription medications can lead to some side effects (adverse effect) including even death.	True	214 (56.9)	162 (43.1)	7
4	Non-prescription medications can lead to the body resistance.	True	246 (65.3)	130 (34.6)	6
5	Continuous uses of Non-prescription medications may cause dependency.	True	246 (65.4)	130 (34.6)	5
6	Non-prescription medications, most of the time, end up complicating the sickness of the child.	True	254 (67.6)	122 (32.4)	4
7	The reading & understanding of leaflets in the medication pack is important before taking medicine.	True	340 (90.4)	36 (9.6)	1
Total			72.59	27.39	

*Significant at $P \leq 0.05$; $P > 0.05$: Not significant; **SD**: standard deviation; **t**: One sample t-test

The distribution of the respondents according to their responses to their knowledge of self-medication was ranked and displayed in table 4.11. According to the findings, the knowledge of self-medication among participants was 73.5%. The table shows that the highest correct answer was the number (7) “The reading & understanding of leaflets in the medication pack is important before taking medicine” with a weighted mean equal to 90.4%, followed by item number (2) “When a child falls sick, it is always very necessary to take him/her to qualified medical personal” with a weighted mean equal 89.9%. While the lowest item was a number (3) “Non-prescription medications can lead to some side

effects (adverse effect) including even death” with a weighted mean equal to 56.9%, followed by item number (4) “Non-prescription medications can lead to the body resistance” with a weighted mean equal 65.3%.

Table 4.12: Distribution of the study population according to their level of knowledge of self-medication.

Variable and level	n (%)	Mean [£]	(SD)	Min	Max
Knowledge of self-medication		72.59	21.15	14.29	100.00
High	162 (43.1)				
Moderate	96 (25.5)				
Low	118 (31.4)				

n: number of subjects; **SD:** standard deviation; **Min:** minimum; **Max:** maximum; [£]Maximum score of mean = **100 points**; **High**= equal 80% or more; **Moderate** = 60-79.9%; **Low** = less than 60%.

Table 4.12 demonstrated the distribution of the study population according to their responses about knowledge of self-medication. This table shows that 43.1% of the respondents have high knowledge of self-medication while 25.5% of them have moderate levels of knowledge of Self-medication and 31.4% of them had a low level of knowledge of Self-medication. Finally, the total average (SD) of knowledge of self-medication levels was 72.59 (21.15) out of 100 points.

4.10. Distribution of the study participants by their beliefs of self-medication

Table 4.13: Scores of items measuring beliefs of self-medication.

No	Items	Mean	SD	Mean %	t-test	P-vale	Rank
1	It is important to give a child medicine at home as soon as he/she become sick.	2.77	1.33	55.40	-3.412	0.001*	4
2	Given a medicine at home Is a good practice for preventing development of disease.	3.06	1.25	61.20	0.993	0.321	2
3	I will always give a baby medicine as soon as he/she fall a sick without delay.	2.97	1.27	59.40	-0.407	0.684	3
4	I can treat my child at home by buying medicine for the shop.	2.61	1.13	52.20	-6.646	0.000*	5
5	When the child falls sick, there is nothing wrong with using left over medicines to treat him/her.	2.30	1.23	46.00	-10.946	0.000*	6
6	Giving medication at home is a way important step in keeping children healthy.	3.15	1.26	63.00	2.291	0.022*	1
Total		2.81	0.92	56.20	-3.982	0.000*	

*Significant at $P \leq 0.05$; $P > 0.05$: Not significant; **SD**: standard deviation; **t**: One sample t-test.

Table 4.13 demonstrated the distribution of the study respondents according to their responses about Beliefs in Self-medication. By using, a one-sample t-test this table indicates that the weighted mean for the overall perceptions about beliefs of self-medication was 56.2%. Based on the findings, the highest item was number (6) “Giving medication at home is a way important step in keeping children healthy” with a weighted mean equal 63%, followed by item number (2) “Given medicine at home is a good practice for preventing the development of disease” with a weighted mean equal 61.2%. While the lowest item (5) “When the child falls sick, there is nothing wrong with using left over medicines to treat him/her” with a weighted mean equal to 46%, followed by item was the number (4) “I can treat my child at home by buying medicine for the shop” with a weighted mean equal 52.2%.

Table 4.14: Distribution of the study participants by their level of beliefs of self-medication.

Variable and level	n (%)	Mean [£]	(SD)	Min	Max
Beliefs of Self-medication		56.20	18.42	20.00	100.00
High	56 (14.9)				
Moderate	118 (31.4)				
Low	202 (53.7)				

n: number of subjects; **SD:** standard deviation; **Min:** minimum; **Max:** maximum; [£]Maximum score of mean = **100 points**; **High**= equal 80% or more; **Moderate** = 60-79.9%; **Low** = less than 60%.

Table 4.14 demonstrated the distribution of the study participants by their responses about beliefs of Self-medication. This table indicates that 14.9% of the participants have a high belief in self-medication while 31.4% of them have moderate levels of belief in self-medication and 53.7% of them have a low level of belief in self-medication. Finally, the average (SD) of beliefs of self-medication levels was 56.2 (18.42) out of 100 points.

4.11. Distribution of the study participants by practice of self-medication

Table 4.15: Scores of items measuring the practice of self-medication.

No.	Items	Mean	SD	% Mean	t-test	P-value	Rank
1	Whenever I treat a child at home, I always ensure that the medicine is safe.	4.39	0.89	87.80	30.533	0.000	1
2	I only use self-medication on condition that I have good ability to diagnose/treat symptoms.	3.45	1.14	69.00	7.676	0.000	5
3	When the condition is similar to previous sickness, then I can use nonprescription medications.	2.52	0.99	50.40	-9.450	0.000	7
4	I can always use nonprescription medications when someone recommend for.	2.16	1.12	43.20	-14.437	0.000	8
5	Whenever I use self-medication, I always ensure that I know him to use the medicines.	3.50	1.21	70.00	8.006	0.000	4
6	Before I use a medication, I must be aware of its possible side effects.	3.75	1.10	75.00	13.210	0.000	3
7	Whenever I do self-medication, I must have information of how to monitor the effects of the medication.	3.77	1.12	75.40	13.247	0.000	2
8	I seek professional advice soon after my child becomes sick.	3.45	1.23	69.00	7.034	0.000	6
Total		3.37	0.59	67.47	12.283	0.000*	

Table 4.15 pointed out the distribution of the study participants by their practices of self-medication. By applying, a one-sample t-test, this table reveals that the weighted mean for the total perceptions about the practice of self-medication was 67.4%. Based on the findings, the highest item was number (1) “Whenever I treat a child at home, I always ensure that the medicine is safe” with a weighted mean equal to 87.8%, followed by item number (7) “Whenever I do self-medication, I must have information of how to monitor the effects of the medication” with a weighted mean equal 75.4%. While the lowest item

(4) “I can always use non-prescription medications when someone recommends for” with a weighted mean equal to 43.2%, followed by item number (3) “When the condition is similar to the previous sickness, then I can use non-prescription medications” with a weighted mean equal 50.4%.

Table 4.16: Distribution of the study participants by their level of practice of Self-medication.

Variable and level	n (%)	Mean [£]	(SD)	Min	Max
Practice of Self-medication		67.47	11.81	30.00	95.00
High	76 (20.2)				
Moderate	224 (59.6)				
Low	76 (20.2)				

n: number of subjects; **SD:** standard deviation; **Min:** minimum; **Max:** maximum; [£]Maximum score of mean = **100 points**; **High**= equal 80% or more; Moderate = 60-79.9%; **Low** = less than 60%.

Table 4.16 displayed the distribution of the study population according to their responses about the practice of self-medication. This table shows that 20.2% of the respondents have a high practice of self-medication while 59.6% of them have moderate levels of practice of self-medication and 20.2% of them had a low level of practice of Self-medication. Finally, the average (SD) of the practice of self-medication levels was 67.47 (11.81) out of 100 points.

4.12. Distribution of the study participants by how they ensure the safety of medications

The distribution of the study population according to ensure the medications safety shows that 32.4% of participants were sure expiry date of treatment before use, 38.3% of respondents confirmed how to save the treatment, 20.7% of respondents consulted a doctor before giving treatment and 22.3% of respondents were have others explanations to ensure the safety of the medications such as read the recipe, giving medication based on the child's weight, ensure that there are no side effects of the drug and that the drug is appropriate for the age of the child, read the medical prescription and keep the medications in a good place.

Table 4.17: Explanation how the participants ensure the safety of the medications.

Explain how you ensure the safety of the medications	Yes N (%)	No N (%)
The expiry date of treatment before use	122 (32.4)	254 (67.6)
Confirm how to save the treatment	144 (38.3)	232 (61.7)
Consult a doctor before giving treatment	78 (20.7)	298 (79.3)
Others	84 (22.3)	292 (77.7)

4.13. Mean difference of studied domains related to socio-demographic data.**Table 4.18:** Mean difference of studied domains related to gender.

Domains	Gender	N	Mean	SD	t	P-value
Self-medication	Male	108	46.11	19.40	4.448	0.000*
	Female	268	37.56	15.73		
Knowledge of self-medication	Male	108	69.84	24.03	-2.176	0.030*
	Female	268	75.05	19.68		
Beliefs of self-medication	Male	108	58.77	19.87	1.706	0.089
	Female	268	55.20	17.70		
Practice of self-medication	Male	108	68.75	11.23	1.333	0.183
	Female	268	66.96	12.00		
Total	Male	108	60.87	9.29	2.058	0.040*
	Female	268	58.69	9.25		

*Significant at $P \leq 0.05$; $P > 0.05$: Not significant; **n**: number of subjects; **SD**: standard deviation; & **t**: independent t test.

Table 4.18 shows the mean difference in studied domains among gender. The student t-test (independent t-test) demonstrated that there is a higher statistically significant among males in the average of the mean D1: “Self-medication” compared to females, D2: “Knowledge of self-medication” and domain as total ($P < 0.05$). While the results show that, there was no statistically significantly differences between males and females in the average of D3: “Beliefs of self-medication”, and D4: “Practice of self-medication”, ($P > 0.05$) in males.

Table 4.19: Mean difference of studied domains related to age group.

Domains	Age (years)	N	Mean	SD	F	P-value
Self-medication	≤19	12	37.78	15.40	0.666	0.616
	20 to 29	156	40.15	16.95		
	30 to 39	160	39.63	17.11		
	40 to 49	36	43.52	20.76		
	≥ 50	12	35.28	14.73		
	Total	376	40.02	17.28		
Knowledge of Self-medication	≤19	12	79.76	20.62	1.843	0.120
	20 to 29	156	75.18	20.08		
	30 to 39	160	72.41	20.15		
	40 to 49	36	67.06	27.71		
	≥ 50	12	80.95	22.24		
	Total	376	73.56	21.12		
Beliefs of self-medication	≤19	12	53.89	21.36	1.275	0.279
	20 to 29	156	57.24	18.87		
	30 to 39	160	54.94	17.41		
	40 to 49	36	60.56	19.03		
	≥ 50	12	49.44	19.17		
	Total	376	56.22	18.39		
Practice of self-medication	≤19	12	70.00	10.92	0.685	0.603
	20 to 29	156	67.96	12.13		
	30 to 39	160	66.67	11.87		
	40 to 49	36	66.88	10.90		
	≥ 50	12	71.04	10.19		
	Total	376	67.47	11.80		
Total	≤19	12	60.36	8.81	0.720	0.578
	20 to 29	156	60.14	9.43		
	30 to 39	160	58.41	9.18		
	40 to 49	36	59.50	9.44		
	≥ 50	12	59.18	9.78		
	Total	376	59.32	9.30		

*Significant at $P \leq 0.05$; $P > 0.05$: Not significant; **n**: number of subjects; **SD**: standard deviation; & **F**: One-way ANOVA.

Table 4.19 demonstrates the mean difference of studied domains related to age group (years). The one-way ANOVA test indicates that there was no statistically significant difference related to age groups (years) in the average of the studied domain as D1: “Self-

medication”, D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication”, and domain as total ($P>0.05$).

Table 4.20: Mean difference of studied domains related to marital status.

Domains	Marital status	N	Mean	SD	t	P-value
Self-medication	Married	364	39.54	17.15	-2.970	0.003*
	Divorce	12	54.44	15.40		
Knowledge of Self-medication	Married	364	73.94	21.06	1.950	0.052
	Divorce	12	61.90	20.51		
Beliefs of Self-medication	Married	364	55.99	18.58	-1.363	0.174
	Divorce	12	63.33	8.99		
Practice of Self-medication	Married	364	67.09	11.67	-3.543	0.000*
	Divorce	12	79.17	9.73		
Total	Married	364	59.14	9.37	-2.050	0.041*
	Divorce	12	64.71	4.90		

*Significant at $P\leq 0.05$; $P>0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t test.

Table (4.21) demonstrates the mean difference in studied domains related to marital status. The student t-test (independent t-test) revealed higher statistically significant among divorced compared to married in the average of the mean D1: “Self-medication” and D4: “Practice of self-medication” and domain as total ($P<0.05$). While the results show that, there was no statistically significantly different in the average of D2: “Knowledge of self-medication” and D3: “Beliefs of self-medication” ($P>0.05$).

Table 4.21: Mean difference of studied domains related to siblings in the family.

Domains	Siblings in the family	N	Mean	SD	F	P-value
Self-medication	None	12	38.89	21.15	0.386	0.819
	1 – 2	58	42.18	18.04		
	3 – 5	164	39.43	17.08		
	6 – 7	92	40.58	16.67		
	≥ 8	50	38.67	17.64		
	Total	376	40.02	17.28		
Knowledge of Self-medication	None	12	80.95	14.07	2.261	0.062
	1 – 2	58	70.94	21.90		
	3 – 5	164	74.74	20.85		
	6 – 7	92	75.78	21.47		
	≥ 8	50	66.86	20.70		
	Total	376	73.56	21.12		
Beliefs of Self-medication	None	12	57.22	24.90	0.595	0.667
	1 – 2	58	57.24	17.71		
	3 – 5	164	56.28	17.14		
	6 – 7	92	57.28	18.71		
	≥ 8	50	52.67	21.00		
	Total	376	56.22	18.39		
Practice of Self-medication	None	12	63.13	6.32	0.739	0.566
	1 – 2	58	66.12	11.61		
	3 – 5	164	67.71	11.82		
	6 – 7	92	67.91	12.01		
	≥ 8	50	68.50	12.60		
	Total	376	67.47	11.80		
Total	None	12	60.05	10.26	1.368	0.245
	1 – 2	58	59.12	9.38		
	3 – 5	164	59.54	8.76		
	6 – 7	92	60.39	9.83		
	≥ 8	50	56.67	9.59		
	Total	376	59.32	9.30		

*Significant at $P \leq 0.05$; $P > 0.05$: Not significant; **n**: number of subjects; **SD**: standard deviation; & **F**: One-way ANOVA.

Table 4.21 demonstrates the mean difference of studied domains related to siblings in the family. The one-way ANOVA test illustrates that there was no statistically significant difference amongst siblings in the family groups in the mean of the studied domain as D1: “Self-medication”, D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication”, and domain as total ($P>0.05$).

Table 4.22: Mean difference of studied domains related to level of education.

Domains	Level of education	N	Mean	SD	F	P-value
Self-medication	Illiterate	4	39.17	4.19	0.139	0.991
	Primary	12	42.50	17.06		
	Secondary	110	40.24	18.36		
	Vocational Skill	12	41.67	15.80		
	College	48	39.31	16.80		
	University	170	39.57	17.13		
	High education	20	42.00	17.98		
	Total	376	40.02	17.28		
Knowledge of Self-medication	Illiterate	4	78.57	24.74	0.412	0.871
	Primary	12	73.81	22.66		
	Secondary	110	72.60	20.22		
	Vocational Skill	12	82.14	12.37		
	College	48	73.81	25.24		
	University	170	73.28	21.11		
	High education	20	74.29	19.44		
	Total	376	73.56	21.12		
Beliefs of Self-medication	Illiterate	4	60.00	14.14	1.263	0.273
	Primary	12	61.11	22.58		
	Secondary	110	58.42	18.86		
	Vocational Skill	12	56.39	25.28		
	College	48	55.28	18.38		
	University	170	55.67	17.82		
	High education	20	47.33	12.02		
	Total	376	56.22	18.39		
Practice of Self-medication	Illiterate	4	63.75	17.02	1.203	0.304
	Primary	12	74.38	11.24		
	Secondary	110	67.82	11.63		
	Vocational Skill	12	68.54	9.74		
	College	48	64.79	14.86		
	University	170	67.56	10.75		
	High education	20	67.25	13.10		
	Total	376	67.47	11.80		
Total	Illiterate	4	60.37	12.40	0.768	0.595
	Primary	12	62.95	7.66		
	Secondary	110	59.77	8.63		
	Vocational Skill	12	62.19	11.41		
	College	48	58.30	10.07		
	University	170	59.02	9.54		
	High education	20	57.72	8.13		
	Total	376	59.32	9.30		

Table 4.22 demonstrates the mean difference of studied domains related to level of education. The one-way ANOVA test indicates that there was no statistically significant

difference related to level of education in the mean of the studied domain as D1: “Self-medication”, D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication”, and domain as total ($P>0.05$).

Table 4.23: Mean difference of studied domains related to employment.

Domains	Employment	N	Mean	SD	t	P-value
Self-medication	Employed	198	43.97	19.51	4.818	0.000*
	Not employed	178	35.62	13.11		
Knowledge of Self-medication	Employed	198	75.61	22.32	2.000	0.046*
	Not employed	178	71.27	19.51		
Beliefs of Self-medication	Employed	198	56.94	19.48	0.792	0.429
	Not employed	178	55.43	17.12		
Practice of Self-medication	Employed	198	67.32	11.30	-0.260	0.795
	Not employed	178	67.64	12.36		
Total	Employed	198	60.96	9.11	3.673	0.000*
	Not employed	178	57.49	9.20		

Significant at $P\leq 0.05$; $P>0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t-test.

Table (4.23) demonstrates the mean difference in studied domains related to employment. The student t-test (independent t-test) indicated that there is higher statistically significant among those who were employed compared to those who were not employed in the average of the mean D1: “Self-medication”, D2: “Knowledge of self-medication”, and domain as total ($P<0.05$). While the results show that, there was no statistically significantly different between those who were employed and not employed in the average of D3: “Beliefs of self-medication”, and D4: “Practice of self-medication”, ($P>0.05$).

Table 4.24: Mean difference of studied domains related to the specific employment.

Domains	Specify employment	N	Mean	SD	t	P-value
Self-medication	Self -employed	54	44.20	19.91	0.511	0.610
	Formal employment	48	42.22	19.00		
Knowledge of Self-medication	Self -employed	54	77.25	22.29	1.053	0.295
	Formal employment	48	72.62	22.02		
Beliefs of Self-medication	Self -employed	54	58.02	20.09	-0.777	0.439
	Formal employment	48	61.11	19.94		
Practice of Self-medication	Self -employed	54	66.39	11.02	-0.575	0.567
	Formal employment	48	67.71	12.16		
Total	Self -employed	54	61.46	10.97	0.301	0.764
	Formal employment	48	60.92	6.68		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t-test.

Table (4.24) demonstrates the mean difference in studied domains related to the specific employment. The student t-test (independent t-test) indicated that there are no statistical differences in the average of the studied domain as D1: “Self-medication”, D2: “Knowledge of Self-medication”, D3: “Beliefs of Self-medication”, D4: “Practice of Self-medication”, and domain as total ($P > 0.05$).

Table 4.25: Mean difference of studied domains related to family income per month.

Domains	The family income per month	N	Mean	SD	F	P-value
Self-medication	Less than 1500 NIS	26	39.74	13.95	0.682	0.564
	From 1501 to 3000 NIS	118	41.33	18.54		
	From 3001 to 4500 NIS	144	38.47	16.34		
	More than 4501 NIS	88	40.87	17.96		
	Total	376	40.02	17.28		
Knowledge of self-medication	Less than 1500 NIS	26	77.47	22.20	0.591	0.621
	From 1501 to 3000 NIS	118	72.88	21.73		
	From 3001 to 4500 NIS	144	74.40	20.41		
	More than 4501 NIS	88	71.92	21.27		
	Total	376	73.56	21.12		
Beliefs of self-medication	Less than 1500 NIS	26	61.28	20.96	0.829	0.478
	From 1501 to 3000 NIS	118	55.14	17.78		
	From 3001 to 4500 NIS	144	56.53	19.11		
	More than 4501 NIS	88	55.68	17.23		
	Total	376	56.22	18.39		
Practice of self-medication	Less than 1500 NIS	26	65.00	12.00	0.658	0.579
	From 1501 to 3000 NIS	118	67.06	11.19		
	From 3001 to 4500 NIS	144	67.64	12.21		
	More than 4501 NIS	88	68.49	11.91		
	Total	376	67.47	11.80		
Total	Less than 1500 NIS	26	60.87	8.98	0.266	0.850
	From 1501 to 3000 NIS	118	59.10	9.78		
	From 3001 to 4500 NIS	144	59.26	9.11		
	More than 4501 NIS	88	59.24	9.18		
	Total	376	59.32	9.30		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; **n**: number of subjects; **SD**: standard deviation; & **F**: One-way ANOVA.

Table 4.25 demonstrates the mean difference of studied domains related to family income per month. The one-way ANOVA test indicates that there is no statistically significant difference among family income groups in the mean of the studied domain as D1: “Self-medication”, D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication”, and domain as total ($P > 0.05$).

Table 4.26: Mean difference of studied domains related to relationship to the children.

Domains	Relationship with the children	N	Mean	SD	F	P-value
Self-medication	Mother	244	40.11	16.66	2.757	0.028*
	Father	90	38.74	16.58		
	Sister	8	30.83	10.80		
	Brother	14	53.10	29.68		
	Other	20	39.17	15.40		
	Total	376	40.02	17.28		
Knowledge of Self-medication	Mother	244	74.24	22.12	1.020	0.397
	Father	90	73.97	18.37		
	Sister	8	66.07	21.51		
	Brother	14	74.49	17.88		
	Other	20	65.71	21.94		
	Total	376	73.56	21.12		
Beliefs of Self-medication	Mother	244	55.49	17.92	0.569	0.685
	Father	90	56.67	18.23		
	Sister	8	62.92	18.55		
	Brother	14	60.24	23.98		
	Other	20	57.67	21.22		
	Total	376	56.22	18.39		
Practice of Self-medication	Mother	244	66.58	11.51	1.610	0.171
	Father	90	68.67	12.80		
	Sister	8	71.56	6.67		
	Brother	14	73.04	8.04		
	Other	20	67.50	13.33		
	Total	376	67.47	11.80		
Total	Mother	244	59.10	8.92	1.699	0.150
	Father	90	59.51	9.40		
	Sister	8	57.85	8.91		
	Brother	14	65.21	10.09		
	Other	20	57.51	12.18		
	Total	376	59.32	9.30		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; **n**: number of subjects; **SD**: standard deviation; & **F**: One-way ANOVA.

Table 4.26 shows the mean difference of studied domains related to the relationship to the children. The one-way ANOVA test shows that there was a statistically significant difference among members who have a relationship with the children in the average of

the mean D1: “Self-medication” ($P < 0.05$). While the results show that, there was no statistically significantly different among members related to the children in the average of D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, and D4: “Practice of self-medication” and domain as total ($P > 0.05$).

Table 4.27: Post Hoc test of mean difference of the studied domain among members have relationship to the children.

Dependent	(I) Relationship with the children	(J) Relationship with the children	Mean Difference (I-J)	SE	P-value	95% CI	
						Lower	Upper
Self-medication	Mother	Father	1.37	2.11	0.517	-2.78	5.52
		Sister	9.28	6.15	0.132	-2.82	21.37
		Brother	-12.99	4.71	0.006*	-22.24	-3.73
		Other	0.94	3.98	0.813	-6.89	8.77
	Father	Sister	7.91	6.32	0.211	-4.51	20.33
		Brother	-14.35	4.92	0.004*	-24.03	-4.68
		Other	-0.43	4.23	0.920	-8.75	7.90
	Sister	Brother	-22.26	7.59	0.004*	-37.18	-7.34
		Other	-8.33	7.16	0.245	-22.42	5.75
	Brother	Other	13.93	5.97	0.020*	2.20	25.66

* $P \leq 0.05$: Significant, $P > 0.05$: Not significant **SE**: standard error and **CI**: confidence interval.

The mean difference of studied domains related to the members has a relationship to the children pointed out in table 4.27. The Post Hoc (LSD) test shows there was lower statistically significant in the average of D1: “Self-medication” among brother compared to mother, father, and sister ($P < 0.05$). In contrast, the results show that there is no statistically significant difference between others member related to the children in the average of D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication” and D4: “Practice of self-medication” and domain as total ($P > 0.05$).

Table 4.28: Mean difference of studied domains related to the use of the child/children self-medication.

Domains	The application of the child/children self-medication	N	Mean	SD	t	P-value
Self-medication	Yes	162	45.80	18.31	5.897	0.000*
	No	214	35.64	15.08		
Knowledge of Self-medication	Yes	162	74.25	22.45	0.554	0.580
	No	214	73.03	20.09		
Beliefs of Self-medication	Yes	162	62.88	15.91	6.427	0.000
	No	214	51.18	18.57		
Practice of Self-medication	Yes	162	67.99	11.13	0.744	0.457
	No	214	67.08	12.29		
Total	Yes	162	62.73	8.96	6.525	0.000*
	No	214	56.73	8.73		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t-test.

Table 4.28 shows the mean difference in studied domains among the use of the child/children self-medication. The student t-test (independent t-test) demonstrated there is higher statistically significant in the average of the mean D1: “Self-medication”, D3: “Beliefs of self-medication” and domain as total among those who used of the child/children self-medication compared to those who not used ($P < 0.05$). In contrast, the results show that there was no statistically significant in the average between D2: “Knowledge of self-medication” and D4: “Practice of self-medication” among those who used the child/children self-medication compared to those who not used ($P > 0.05$).

Table 4.29: Mean difference of studied domains related to use of self-medication.

Domains	Application self-medication	N	Mean	SD	F	P-value
Self-medication	Sometimes	68	47.75	18.25	0.515	0.672
	Rarely	42	44.21	18.55		
	When a symptom is in mild	32	45.52	19.74		
	Other	20	43.00	16.15		
	Total	162	45.80	18.31		
Knowledge of Self-medication	Sometimes	68	73.53	21.97	0.276	0.842
	Rarely	42	76.87	23.60		
	When a symptom is in mild	32	73.66	24.10		
	Other	20	72.14	19.92		
	Total	162	74.25	22.45		
Beliefs of Self-medication	Sometimes	68	62.11	16.42	0.768	0.513
	Rarely	42	63.10	15.78		
	When a symptom is in mild	32	61.25	16.24		
	Other	20	67.67	13.98		
	Total	162	62.88	15.91		
Practice of Self-medication	Sometimes	68	68.01	10.66	0.588	0.624
	Rarely	42	67.74	11.39		
	When a symptom is in mild	32	66.56	12.16		
	Other	20	70.75	10.82		
	Total	162	67.99	11.13		
Total	Sometimes	68	62.85	8.94	0.176	0.912
	Rarely	42	62.98	9.26		
	When a symptom is in mild	32	61.75	9.01		
	Other	20	63.39	8.84		
	Total	162	62.73	8.96		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; **n**: number of subjects; **SD**: standard deviation; & **F**: One-way ANOVA.

Table 4.29 shows the mean difference of studied domains related to often use of self-medication. The one-way ANOVA test shows that there is no statistically significant difference among use self-medication groups in the mean of the studied domain as D1: “Self-medication” D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication”, and domain as total ($P > 0.05$).

Table 4.30: Mean difference of studied domains related to fever and headache.

Domains	Fever and headache	N	Mean	SD	t	P-value
Self-medication	Yes	300	39.47	17.41	-1.229	0.220
	No	76	42.19	16.68		
Knowledge of Self-medication	Yes	300	72.86	21.59	-1.276	0.203
	No	76	76.32	19.03		
Beliefs of Self-medication	Yes	300	55.91	18.34	-0.654	0.514
	No	76	57.46	18.67		
Practice of Self-medication	Yes	300	67.55	11.95	0.250	0.803
	No	76	67.17	11.26		
Total	Yes	300	58.95	9.36	-1.541	0.124
	No	76	60.78	8.99		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t-test.

Table (4.30) shows the mean difference in studied domains among fever and headache. The student t-test (independent t-test) demonstrated that there are no statistical differences in the average of the studied domain as D1: “Self-medication” D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication”, and domain as total regarding fever and headache ($P > 0.05$).

Table 4.31: Mean difference of studied domains related to nausea and vomiting.

Domains	Nausea and vomiting	N	Mean	SD	t	P-value
Self-medication	Yes	120	40.11	17.27	0.072	0.943
	No	256	39.97	17.32		
Knowledge of Self-medication	Yes	120	71.90	22.83	-1.038	0.300
	No	256	74.33	20.27		
Beliefs of Self-medication	Yes	120	56.94	18.10	0.520	0.603
	No	256	55.89	18.55		
Practice of Self-medication	Yes	120	68.79	10.69	1.486	0.138
	No	256	66.86	12.26		
Total	Yes	120	59.44	8.57	0.171	0.864
	No	256	59.26	9.65		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t-test.

Table (4.31) shows the mean difference in studied domains among nausea and vomiting. The student t-test (independent t-test) demonstrated that there are no statistical differences in the average of the studied domain as D1: “Self-medication” D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication” and domain as total ($P > 0.05$) regarding nausea and vomiting.

Table 4.32: Mean difference of studied domains related to cough and cold.

Domains	Cough and cold	N	Mean	SD	t	P-value
Self-medication	Yes	100	44.93	18.57	3.366	0.001*
	No	276	38.24	16.46		
Knowledge of Self-medication	Yes	100	71.14	22.33	-1.335	0.183
	No	276	74.43	20.64		
Beliefs of Self-medication	Yes	100	61.27	17.62	3.241	0.001*
	No	276	54.40	18.35		
Practice of Self-medication	Yes	100	67.30	13.59	-0.171	0.864
	No	276	67.54	11.10		
Total	Yes	100	61.16	9.82	2.326	0.021*
	No	276	58.65	9.04		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t-test.

Table (4.32) shows the mean difference in studied domains among cough and cold. The student t-test (independent t-test) demonstrated to have higher statistically significant in the average of the mean D1: “Self-medication”, D3: “Beliefs of self-medication” and domain as total regarding cough and cold ($P < 0.05$). While the results show that, there haven’t statistically significant in the average of D2: “Knowledge of self-medication” and D4: “Practice of self-medication” regarding cough and cold ($P > 0.05$).

Table 4.33: Mean difference of studied domains related to diarrhea.

Domains	Diarrhea	N	Mean	SD	t	P-value
Self-medication	Yes	52	41.86	21.08	0.827	0.409
	No	324	39.72	16.61		
Knowledge of Self-medication	Yes	52	72.25	21.06	-0.479	0.632
	No	324	73.77	21.16		
Beliefs of Self-medication	Yes	52	58.27	20.19	0.864	0.388
	No	324	55.90	18.10		
Practice of Self-medication	Yes	52	68.99	13.18	0.999	0.319
	No	324	67.23	11.56		
Total	Yes	52	60.34	10.53	0.856	0.393
	No	324	59.15	9.10		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t-test.

Table (4.33) shows the mean difference in studied domains among diarrhea. The student t-test (independent t-test) demonstrated that there are no statistical differences in the average of the studied domain as D1: “Self-medication” D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication”, and domain as total among who have diarrhea compared to who haven’t ($P > 0.05$).

Table 4.34: Mean difference of studied domains related to skin problem.

Domains	Skin problem	N	Mean	SD	t	P-value
Self-medication	Yes	12	47.78	16.53	1.584	0.114
	No	364	39.76	17.27		
Knowledge of Self-medication	Yes	12	69.05	34.90	-0.751	0.453
	No	364	73.70	20.57		
Beliefs of Self-medication	Yes	12	55.00	13.14	-0.234	0.815
	No	364	56.26	18.55		
Practice of Self-medication	Yes	12	65.42	11.02	-0.613	0.540
	No	364	67.54	11.83		
Total	Yes	12	59.31	7.33	-0.003	0.998
	No	364	59.32	9.37		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t-test.

Table (4.34) shows the mean difference in studied domains among skin problems. The student t-test (independent t-test) demonstrated that there are no statistical differences in the average of the studied domain as D1: “Self-medication” D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication” and domain as total among who have skin problems compared to who haven’t ($P > 0.05$).

Table 4.35: Mean difference of studied domains related to eye/ear problems.

Domains	Eye/ear problems	N	Mean	SD	t	P-value
Self-medication	Yes	8	41.67	9.59	0.272	0.785
	No	368	39.98	17.42		
Knowledge of Self-medication	Yes	8	75.00	27.27	0.195	0.845
	No	368	73.52	21.01		
Beliefs of Self-medication	Yes	8	50.00	17.27	-0.967	0.334
	No	368	56.36	18.41		
Practice of Self-medication	Yes	8	61.88	2.22	-1.358	0.175
	No	368	67.60	11.89		
Total	Yes	8	57.14	4.88	-0.670	0.503
	No	368	59.37	9.38		

Significant at $P \leq 0.05$; $P > 0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t test.

Table (4.35) shows the mean difference in studied domains among eye/ear problems. The student t-test (independent t-test) demonstrated that there are no statistical differences in the average of the studied domain as D1: “Self-medication” D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication” and domain as total ($P>0.05$) among who have eye/ear problems compared to who haven’t.

Table 4.36: Mean difference of studied domains related to other problems.

Domains	Other problems	N	Mean	SD	t	P-value
Self-medication	Yes	98	40.37	18.44	0.237	0.813
	No	278	39.89	16.89		
Knowledge of Self-medication	Yes	98	74.49	17.79	0.508	0.611
	No	278	73.23	22.19		
Beliefs of Self-medication	Yes	98	54.97	18.18	-0.787	0.432
	No	278	56.67	18.48		
Practice of Self-medication	Yes	98	67.40	12.42	-0.074	0.941
	No	278	67.50	11.59		
Total	Yes	98	59.31	9.58	-0.013	0.989
	No	278	59.32	9.22		

Significant at $P\leq 0.05$; $P>0.05$: Not significant; n: number of subjects; SD: standard deviation; & t: independent t-test.

Table (4.36) shows the mean difference in studied domains among other problems. The student t-test (independent t-test) demonstrated that there are no statistical differences in the average of the studied domain as D1: “Self-medication” D2: “Knowledge of self-medication”, D3: “Beliefs of self-medication”, D4: “Practice of self-medication” and domain as total among who have other problems compared to who haven’t ($P>0.05$).

Table 4.37: Correlation between the studied domains among the study participants.

		Self-medication	Knowledge of Self-medication	Beliefs of Self-medication	Practice of Self-medication	Total
Self-medication	r	-	-0.132	0.510	0.135	0.684
	P-value	-	0.010	0.000	0.009	0.000
Knowledge of Self-medication	r	-0.132	-	-0.172	-0.046	0.407
	P-value	0.010	-	0.001	0.378	0.000
Beliefs of Self-medication	r	0.510	-0.172	-	0.085	0.660
	P-value	0.000	0.001	-	0.102	0.000
Practice of Self-medication	r	0.135	-0.046	0.085	-	0.396
	P-value	0.009	0.378	0.102	-	0.000
Total	r	0.684	0.407	0.660	0.396	-
	P-value	0.000	0.000	0.000	0.000	-

r: Pearson correlation & * indicates a statistically significant difference at $P < 0.05$.

Table 4.37 shows there was a positive significant correlation between domain as total with Self-medication, knowledge of self-medication, beliefs of self-medication, and practice of self-medication, And the table shows there was a positive significant correlation between domain beliefs of self-medication with self-medication ($P < 0.05$). In contrast, the table shows there was a negative significant correlation between domain of Knowledge of Self-medication, and both Self-medication and beliefs of Self-medication ($P < 0.05$). Finally, the table showed that there is no statistically significant correlation between other studied domains ($P > 0.05$).

Chapter 5

Discussion

Chapter 5

Discussion

5.1 Introduction

This chapter summarizes the study and conclusions drawn from the data analysis in chapter four. Additionally, it provides a discussion of the implications for actions and recommendations for additional studies. Self-medication is considered a significant public health challenge around the world since it is a widespread practice. Self-medication without a valid reason or purpose wastes healthcare resources and promotes pathogen resistance, drug-drug interactions, and adverse drug responses that result in hospital admissions. Sociocultural and socioeconomic traits, prior exposure to a symptom or disease, attitude toward disease, the funding or reimbursement model for healthcare, the increased capacity for self-care in the management of illnesses, and the accessibility of medications have all been cited as explanatory factors for the self-medication trend. Self-medication has been examined extensively over the past several years, and numerous papers have offered statistics on its frequency among healthcare workers, the general adult and adolescent population, college students, and people with various medical conditions (Haque et al., 2019; Kenny et al., 2018).

The focus of this research project is on the knowledge, beliefs, and practices of self-medication in children by their parents in Ramallah and AL-Birth hospitals.

5.2 Socio-demographic data

The present study included the socio-demographic characteristics such as gender, age, marital status, siblings in the family, educational level, occupation, specific occupation, family income per month, relationship to the children, the use of the child/children self-medication, and used self-medication when indicated problems. The study showed that the percentage of females was higher than males (71.3% vs. 28.7%, respectively). These results agree with another study by James et al., (2006) that evaluated the KAP of self-medication among students and pointed out of the 134 respondents, 43 (32.1%) were males and 91 (67.9%) were females.

Regarding age, the results detected that the highest age groups among the participants were the age group between 30 to 39 years, and the lowest age groups of the study responders were aged 19 or less and 50 years or more. Cristescu et al., (2018) studied the parents' use of self-medication among children less than 12 years and they found that the highest group of participants aged between 30 to 39 years (58%).

The results showed that the highest educational level of the responders was finished university while the lowest education level was illiterate. These results agree with another study by Solangi et al., (2018) that studied Parent-based self-medication in Pakistani children: a qualitative cross-sectional survey in Bangladesh and showed the parents' education level was 44.5% of university graduates.

Marital status among participants shows that the highest groups of them were married representing. The results detected that most of the study respondents have siblings in the family of 3 to 5 members. The results pointed out that more than half of the study population was employed, and the highest percentage of the participants was self-employed representing. The results showed that the majority of participants have a family income per month of 3001 to 4500 NIS (38.3%). Regarding relationships with the children, the results illustrated that the highest of the participants have a relationship with the children with the mother. These results agree with Simegn and Moges, (2022) that showed married participants in the study assess the self-medication practice and associated factors among residents in Dessie City, Northeast Ethiopia 75.2%. on the other hand, Alonso-Castro et al., (2022) studied the factors and practices associated with self-medicating children among Mexican parents and showed the percentage of employees higher than unemployed (82.6% vs. 4.8%, respectively).

5.2 Distribution of the study population according to their clinical data

The results show that 43.1% of respondents used child/children self-medication and the majority of the participants have sometimes used self-medication (42.0%) followed by 25.9% of them rarely and 19.8% of respondents use self-medication when a symptom is mild. The results show that the highest groups of participants used self-medication when having fever and headache (79.8%) followed by nausea and vomiting, cough and cold,

other's problems, diarrhea, and skin problem and the lowest groups of participants used self-medication when having eye/ear problems. These results are in consistent with Ge et al., (2021), who studied factors associated with self-medication in children and the decomposition of rural-urban disparities in China and the results showed that 38.2% of primary caregivers in rural areas self-medicated their children. Regarding the use of child/children self-medication, several studies agree with the current study and showed that the majority of the responders have sometimes used self-medication (57.0%), and 28% of them rarely self-medication when a symptom is mild (James, & French, 2008). Another study by Mallah et al., (2020) showed that association of knowledge and beliefs with the misuse of antibiotics in parents A study in Beirut in Lebanon and the results of the study concluded 53.2% has sometimes used self-medication.

Finally, another study agrees with the current study that showed most frequently self-medication when indicated respiratory (80%) and gastrointestinal (13%) symptoms were reported while 26% of patients used the previous prescription paper to obtain antibiotics and 74% obtained antibiotics from pharmacies and drug stores without any prescription required (Mohanna, 2010). According to a cross-sectional study by Zyoud et al, (2019), the Self-medication of children is common among parents in Palestine. Among the 500 respondents interviewed, about 73.4% accepted using medications as self-therapy for their children. The most common reason for using self-medication was previous experience 54.6%. Alsuhaibani and Alsuhaibani, (2020) showed that the most common symptoms for taking OTC medication were fever (64.7%), and flu (50.3%). The primary sources of medications were administered by the hospital (48.6%), and pharmacy (27.4%), with paracetamol being the most frequently used (82.5%).

5.3 Distribution of the participants according to their measuring self-medication

The overall perceptions about Self-medication were 40%. The results showed that 3.7% of the respondents have s self-medication while 10.1% of them have moderate levels of Self-medication and 86.2% of them had a low level of self-medication. These studies agree with several studies that showed parents used medication as self-treatment for their children without consulting a doctor. Abu Tayyem (2017) showed that 65.3% of the participants used the medication as self-treatment. Briefly, 81.5% of participants had used

over-the-counter antibiotics in the past two years. Another study was done by Al-Ramahi (2013) and showed that self-medication practices have been common among people in Palestine (87.0). Analgesics were the most common class used in self-medication 79.2%, followed by flu medications (45.3%), and antibiotics (33.0%). Eldalo et al. (2022) in Sudan showed about 84% of parents used to recommend western medications to their children and the study showed that more than 1/3 of children had received parental self-medication in the month preceding this study.

Mallah, et al., (2020) recognized the link between antibiotics and antibiotic misuse in Lebanon's levels of knowledge and beliefs and the study showed that the risk of parents using antibiotics in their homes for future usage is exacerbated by insufficient awareness and misconceptions about antibiotics, which relate to greater probabilities of antimicrobial misuse. Another study has been conducted the study in Saudi Arabia to explore parents' knowledge, attitude, and practice toward self-medicating their children. It showed that there is generous use of OTC medication for children by their parents in the Qassim region (Alsuhaibani and Alsuhaibani, 2020).

In Jordan, qualitative methods aimed to assess parents' attitudes and practices about the self-medication of their children. The results of the study indicated that Jordan is frighteningly high in self-medication. Furthermore, misunderstandings and abuse of medications are regarded as a big concern. Yuan et al. (2022) in China were estimate the prevalence of self-medication reported by parents among children under age 12 in China and showed that 24.21% of respondents reported self-medication in the previous year. According to Alonso-Castro et al. (2022) on Mexican parents with children under 12 years of age. The prevalence of self-medication was 49.6%. On the other hand, Sen Tunc et al. (2021) in Turkey found that the majority of parents practiced self-medication for their children's dental problems (70.2%). Self-medication with previously prescribed medications was usually preferred by parents (62.2%). Another study by Ahmed et al. (2021) showed that the overall prevalence reported is 58.82%. An increasing trend of self-medication among higher secondary school education mothers (35.3%).

5.4 Scores of items measuring knowledge of self-medication

According to the results, the knowledge of self-medication among participants was 73.5%. and the majority knowledge of self-medication among participants was high (43.1%) followed by 31.4% of them having a low level of knowledge of Self-medication and the lowest group was moderate levels of knowledge of Self-medication (25.5%). These results agree with several studies such as Mallah, et al., (2020) that recognized the link between antibiotics and antibiotic misuse in Lebanon's levels of knowledge and beliefs. The results showed that 41 % of them indicated at least one misuse activity, utilizing the questionnaire of anonymous self-administered knowledge, attitude, and practices.

Shadi, et al., (2019) studied the knowledge of parents in the Western area of Saudi Arabia about the usage of antibiotics for children with upper respiratory tract infections (URTIs). Also, the results showed that 98% agreed that antibiotics may be misused and roughly 74% said medications are not beneficial for viral illnesses. Also, another study assesses parents' knowledge, behaviors, adherence, information seeking, and antibiotic resistance awareness in Libya and showed that 16.6% recognized that antibiotics could treat bacterial illnesses (Kutrani et al. 2019).

The knowledge of Palestinian refugees visiting UNRWA health Centers in Jordan regarding antibiotic usage to prepare public health interventions appropriately was studied by Al Baz, et al. (2018). And 63% of patients share medications, 38% take over-the-counter antibiotics and 60% buy antibiotics straight from the pharmacy (OTC).

The misconceptions of parents of primary school children about the usage of antibiotics for upper respiratory tract (URT) symptoms and the results showed that 67% of the parents acknowledged self-prescription again or again and the main cause for self-prescription (41.8 %) was that they considered the children were not sick enough to go to a health care center (Al-Shawi et al. 2018). Katumbo et al. (2020) evaluated the frequency of self-medication and described common errors risky behaviors and habits in the Democratic Republic of the Congo. and the results illustrated that a large number of

women (95.7 %) don't have knowledge about the exact dose of the medication taken and 97.17 % don't check the expiration date.

Chang et al. (2018) studied children in urban China, in which caregivers' knowledge gaps and undesirable's attitudes regarding the appropriate use of antibiotics were identified and the results showed that 48.2% of respondents reported non-prescription use of antibiotics for children in the past 6 months and the results showed significantly associated with non-prescription use of antibiotics in children, while significant inverse associations were found for caregiver's knowledge of prescription-only regulation on antibiotics sales at community pharmacies.

In Bangladesh to analyze the knowledge of antibiotic use among parents of children and correlate it with the gender, education level, and previous use of antibiotics by the parents. The results showed that the majority of the parents (70.7%) appreciated that misuse of antibiotics could harm the child. And the researchers concluded that a lack of knowledge about antibiotic resistance was prevalent (Islam et al. 2018).

5.5 Scores of items measuring beliefs of self-medication

The results show that the overall perceptions of beliefs of self-medication were 56.2%. regarding the proportion of beliefs in self-medication classification, the results showed that 14.9% of the respondents have a high belief in self-medication while 31.4% of them have moderate levels of belief in self-medication and 53.7% of them have a low level of belief in self-medication.

The current results conducted with another study by Mallah, et al., (2020) recognized the link between antibiotics and antibiotic misuse in Lebanon's levels of beliefs knowledge and. The study discovered that beliefs and misconceptions regarding antibiotics significantly raised the chances of their abuse. Subjects who felt that antibiotics were beneficial in treating viruses, sore throat or common cold had double the likelihood of misuse of medications, for example. Also, the risk of parents using antibiotics in their homes for future usage is exacerbated by insufficient awareness and misconceptions about antibiotics, which relate to greater probabilities of antimicrobial misuse. Pavydė et

al., (2015) studied the public knowledge, beliefs, and behavior regarding antibiotic use and self-medication in Lithuania. the study aimed to assess public knowledge, beliefs, and behavior concerning antibiotic use and self-medication in Lithuania. and showed that more than half of the respondents (61.1%) had poor knowledge and beliefs about antibiotics.

Additionally, Tarcu et al. (2020) investigated trends and reasons related to self-medication amongst the Romania's pediatric population. The researchers noted that a significant portion (70%) of parents self-medicate their children. The findings show a strong correlation between parents' attitudes on self-medication and their propensity to give their children medicines without a doctor's prescription. A considerable correlation was also observed between the possibility of parental self-medication for their children and the number of diseases suffered by their children in the six months preceding the study.

5.6 Scores of items measuring practice of Self-medication

The findings of the current study indicated that overall perceptions about the practice of self-medication were 67.4%. The practice of Self-medication classification into 3 groups, and the results pointed out that 20.2% of the respondents have a high practice of self-medication while 59.6% of them have moderate levels of practice of self-medication and 20.2% of them had a low level of practice of Self-medication. The results of the current study are similar to another study done by Al-Ramahi (2013) and showed that self-medication practices have been widespread amongst families in Palestine. The study reported 87.0% treated by Self-medication. According to the researcher knowledge most of participants have moderate awareness about self-medication because poor attitudes of medical professionals towards patients, long distances to health facilities, limited workshop and training, and pre-experience with the disease are the main factors that effective of self-medication.

Also, the current study disagree with another study in Egypt was studied by Mohamed et al. (2018). The study conducted to evaluate parents' practices about antibiotic usage in URIs in children and showed that parents' practice was 24.5%. Another study showed

that most participants practiced self-medication (86.4%) (El-Nimr et al., 2015). The difference in results may be due to different sample sizes and different environments.

Also, the study by Sen Tunc et al. (2021) in Turkey agree with current study and it found that the majority of parents (70.2%) practiced self-medication for their children's dental problems. While Ahmed et al. (2021) conducted a random survey in Indonesia and showed that the practice of self-medication was 58.8%. Self-medication is common in Rwanda. Caregivers/parents are involved in this practice regardless of their socio-demographic background studied According to a cross-sectional of Ukwishaka et al. (2020). The usage of self-medication was stated to be 77.9%. Amongst these caregivers/parents, 50.8% utilized only modern self-medication, 15.8% utilized only traditional self-medication and 33.3% utilized both types of self-medication. These studies agree with the current study because the matching in population and new study in 2021.

Moreover, Gohar et al. (2017) conducted another study in Lahore, Pakistan and have agreement with current study. Self-medication awareness was 66% across all parents, with this practice being more prevalent in parents who have children aged between 1 to 5 years. Additionally, it was found that 45% of parents self-medicate their children 3–4 times/year, with the major drivers being leftover medicine, financial restrictions, a lack of time, prior experience, and a perception of illness. A survey to test the Pakistani parents' knowledge, attitudes, and practice towards self-medicating their children. The most popular self-treated symptom was cough & cold 73 (72.27%) and the results showed that doctors were the first favorite source for 91.0% of parents (Solangi et al., 2016). Our knowledge agreement with theses study due to both previous studies in poor country and that indicated to poor knowledge and limited health facilities.

5.7 Distribution of the study population according to them explain how they ensure the safety the medications is safe

They explain how they ensure the safety of the medications shows that the highest frequency was respondents confirmed how to save the treatment (38.3%) followed by the expiry date of treatment before use (32.4%), 20.7% of respondents consulted a doctor

before giving treatment and 22.3% of respondents were have others explain how they ensure the safety of the medications such as read the recipe, giving medication based on the child's weight, ensure that there are no side effects of the drug and that the drug is appropriate for the age of the child, read the medical prescription and keep the medications in a good place. These results are consistent with several studies (Aziz et al., 2018 and Quispe-Cañari et al., 2021 and Al-Worafi, 2020). The agreement with other studies because that very important to sure the safety of medications, confirm the expiration date of the medications, and also very important to agree that the respondents consulted the doctor before giving the treatment, read the leaflet before using the medicine and drug analysis is at a specific time and specific temperature.

5.8 Relationship between socio-demographic and clinical data and self-medication, knowledge of self-medication, beliefs of self-medication, and practice of self-medication

The current study showed that there is a relationship between gender and self-medication, and knowledge of self-medication. The results showed that males are higher statistically associated with self-medication than females while females have higher knowledge of self-medication compared to males. These results agree with another study by Islam et al. (2018). The researchers carried out cross-sectional research in Bangladesh to analyze the self-medication, and knowledge of self-medication of antibiotics use among parents of children and correlate it with gender. The researches explained these results because mothers having previous experience in treating similar illnesses and economic conditions.

Regarding age, the results revealed that there was no association among age groups in the average of the studied domain Self-medication, Knowledge of self-medication, Beliefs of self-medication, Practice of self-medication, and domain as total. Also, the results showed that levels of self-medication, knowledge of self-medication, beliefs of self-medication, the practice of self-medication, and domain as total not associated with siblings in the family, educational level, the specific occupation, and family income per month. These results agree with Zahreddine et al., (2018) who showed that there is no relationship between education levels and age. While another study by Elong Ekambi et al., (2019) disagrees with the current study that showed there is an association between

education and occupation. Another study showed that health status, marital status, number of children, employment status and family income were not analysed as covariates probably related to knowledge of antibiotics and self-medication (Pavydė et al., 2015). Mensah et al., (2019) & Gyawali et al., (2015) showed that there is a relationship between occupation and knowledge of self-medication. On another hand, Akhtar et al., (2022) demonstrated that there was a statistically significant difference among members who have a relationship with the children in the average of the mean Self-medication. The agreement of these results with our results because no differences between the prevalence rate of self-medication in different child age groups have been reported in the majority of previous studies.

Distribution of the study population according to their clinical data included the use of the child/children self-medication, use self-medication, fever and headache, nausea, and vomiting, diarrhea, skin problem, eye/ear problems, and other problems. The findings of the research showed that self-medication was linked with the use of child/children self-medication while coughing and cold associated with Self-medication and beliefs in Self-medication. These results disagree with another study that showed headache and fever were reported as the most common health complaint that led to self-medication in various studies (Ayalew, 2017). According to the researcher opinion, some of the self-medication practices are harmful and need prompt action.

The current study showed that there is a positive association between domain as total with self-medication, knowledge of self-medication, beliefs of self-medication, and practice of self-medication. Also, the results show there was a positive association between domain beliefs of self-medication with self-medication while the results there was a negative association between the domain of knowledge of self-medication and both self-medication and beliefs of self-medication. Finally, the results showed that there is no association between other studied domains. These results agree with other studies by Auta et al., (2022) & Zeb et al., (2022). According to the researcher opinion because theses domain depends on educational level of the responders and our study showed that highest educational level of the responders was finished university and participants having previous experience. However, most of responders have moderate awareness.

Chapter 6

Conclusion and Recommendations

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Conclusion and Recommendations

5.1 Conclusion:

The study pointed out that there is a moderate level of self-medication among participants and the majority of them had a low level of self-medication. About half of participants have high knowledge about self-medication, while 25.5% have moderate levels of knowledge and 31.4% had a low level of knowledge. About half of participants have low levels of belief about self-medication, around 31.4% of participants have moderate levels of belief about self-medication, and 14.9% have a high level of belief. Also, about 59.6% have moderate levels of practice of self-medication, 20.2% of them had a low level of practice of self-medication, and 20.2% of the respondents have a high practice of self-medication.

5.2 Recommendations:

- Raising awareness about the appropriate use of medications and educating parents about the negative effects of using medications without a prescription, through conducting workshops, awareness programs, television programs, or through social media.
- The Ministry of Health and the health professions syndicates must establish policies and procedures to prevent pharmacies from dispensing any medication without a medical prescription from a doctor.
- All pharmacies are obligated not to give medications without a prescription.
- Periodic monitoring of pharmacies owners by the Ministry of Health.
- Intensifying research on the subject of children's self-treatment by their parents.

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cross-sectional study from Palestine. *Asia Pacific Family Medicine*, 18(1).
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Annexes

Annex 1: Sample size calculator.



Raosoft[®]

What margin of error can you accept? <small>5% is a common choice</small>	<input type="text" value="5"/> %
What confidence level do you need? <small>Typical choices are 90%, 95%, or 99%</small>	<input type="text" value="95"/> %
What is the population size? <small>If you don't know, use 20000</small>	<input type="text" value="17400"/>
What is the response distribution? <small>Leave this as 50%</small>	<input type="text" value="50"/> %
Your recommended sample size is	376

Source: (Raosoft, 2022).

Annex 2: Study tool (A questionnaire) in English.

Questionnaire for Self-Medication Caretakers

SECTION I: DEMOGRAPHIC FACTORS

Please provide the following information about yourself/ your department to the best of your ability by filling in blank or checking (/) a suitable item. Do not select more than one response or one statement

1. Your name (Optional): _____

2. Gender

Female ☐ Male ☐

3. Age

≤ 19 ☐ 20 – 29 ☐ 30 – 39 ☐ 40 – 49 ☐ ≥ 50 ☐

4. Marital status

Single ☐ Married ☐ Divorce ☐ Separated ☐ Widow/Widower ☐

5. Siblings in the family

None ☐ 1 – 2 ☐ 3 – 5 ☐ 6 – 7 ☐ ≥ 8 ☐

6. Educational level

Illiterate ☐ Primary ☐ Secondary ☐ Vocational Skill ☐ College ☐ University ☐ Others ☐
(Specify) _____

7. Occupation (employed/not employed)

None ☐ Casual labour ☐ Formal employment ☐ Self -employed ☐ Others ☐ (Specify)

8. Your average family income per month in (NIS)

- ☐ Less than 1500 NIS.
☐ From 1501 to 3000 NIS.
☐ From 3001 to 4500 NIS.
☐ More than 4501 NIS.

9. Relationship to the children

Mother ☐ Father ☐ Sister ☐ Brother ☐ Other ☐ (Specify) _____

10. The use of the child/children self-medication

Yes ☐ No ☐ I don't know ☐

11. If your answer in Q. 10 above is Yes, how often do you use.

Every time ☐ Sometimes ☐ Rarely ☐ When symptom is in mild ☐ Other ☐ (Specify)

12. I used self-medication when indicated to

Fever and headache ☐ Cough and cold ☐ Acidity ☐ Nausea and vomiting ☐ Diarrhea

☐ Skin problem ☐ Eye/ear problems ☐ Others ☐ (Specify) _____

SECTION II: SELF MEDICATION

Answer the following questions/items by checking (/) always, most of time, often, sometimes and never as in appropriate to you. Do not select more than one alternative from one statement.

Statement	Always	Most of time	Often	Sometimes	Rarely
1 When the child (0 – 5) falls sick at home, do you give him/her medicine at home?					
2 When the child falls sick at home, do you go to the medication shop/shop and buy medications to give him/her?					
3 When the child falls sick at home, do you use remaining medications from previous prescription to treat him/her?					
4 Sometimes, in the event of sickness, do you use previous prescription to buy new medications for the child?					
5 Do you buy medicine from advice of relatives, neighbors, friends or others?					
6 How often do you decide to give the child medications at home before taking him/her to hospital?					

SECTION III: KNOWLEDGE OF SELF MEDICATION

Answer the following questions/items by checking (/) right, wrong and uncertain as in appropriate to you. Do not select more than one alternative from one statement.

Statement	Right	Wrong	Uncertain
1 Non-prescription medications require basic knowledge about medication action			
2 When a child falls sick, it is always very necessary to take him/her to qualified medical personal.			
3 Non-prescription medications can lead to some side effects (adverse effect) including even death.			
4 Non-prescription medications can lead to the body resistance.			
5 Continuous uses of Non-prescription medications may cause dependency.			
6 Non-prescription medications, most of the time, end up complicating the sickness of the child.			
7 The reading & understanding of leaflets in the medication pack is important before taking medicine.			

SECTION IV: BELIEFS OF SELF MEDICATION

Answers the following questions/items by checking (/) strongly agree, agree, uncertain, disagree, strongly disagree as in appropriate to you. Do not select more than one alternative from one statement.

Statement	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
1 It is important to give a child medicine at home as soon as he/she become sick.					
2 Given a medicine at home Is a good practice for preventing development of					

disease.					
3 I will always give a baby medicine as soon as he/she fall a sick without delay.					
4 I can treat my child at home by buying medicine for the shop.					
5 When the child falls sick, there is nothing wrong with using left over medicines to treat him/her.					
6 Giving medication at home is a way important step in keeping children healthy.					

SECTION V: PRACTICE OF SELF MEDICATION

Answers the following questions/items by checking (/) strongly agree, agree, uncertain, disagree, strongly disagree as in appropriate to you. Do not select more than one alternative from one statement.

Statement	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
1 Whenever I treat a child at home, I always ensure that the medicine is safe.					
2 If your answer in Q. 1 above is Yes, please explain how you ensure the safety of the medicine					
3 I only use self-medication on condition that I have good ability to diagnose/treat symptoms.					

4 When the condition is similar to previous sickness, then I can use nonprescription medications.					
5 I can always use nonprescription medications when someone recommend for.					
6 Whenever I use self-medication, I always ensure that I know him to use the medicines.					
7 Before I use a medication, I must be aware of its possible side effects.					
8 Whenever I do self-medication, I must have information of how to monitor the effects of the medication.					
9 I seek professional advice soon after my child becomes sick.					

Annex 3: Study tool (A questionnaire) in Arabic.

استبانة حول معرفة ومعتقدات وممارسات العلاج الذاتي للأطفال من قبل أولياء أمورهم

القسم الأول: العوامل الديموغرافية:

يرجى تقديم المعلومات التالية عنك / عن قسمك بأفضل ما لديك من خلال ملء الفراغ أو التحقق من (/) أمام العنصر المناسب. لا تختار أكثر من إجابة واحدة أو إفادة واحدة.

١. الاسم (اختياري): _____

٢. الجنس:

☐ ذكر.

☐ أنثى.

٣. الفئة العمرية:

☐ أقل من ١٩ سنة.

☐ من ٢٠-٢٩ سنة.

☐ من ٣٠-٣٩ سنة.

☐ من ٤٠-٤٩ سنة.

☐ أكثر من ٥٠ سنة.

٤. الحالة الاجتماعية:

☐ متزوج/ة.

☐ مطلق/ة.

☐ أرمل/ة.

٥. عدد الأشقاء في الأسرة:

☐ لا يوجد.

☐ ١-٢.

☐ ٣-٥.

☐ ٦-٧.

☐ أكثر من ٨.

٦. المستوى التعليمي:

☐ أمي.

☐ الابتدائية.

☐ الثانوية.

☐ شهادة مهارات مهنية.

☐ دبلوم.

☐ بكالوريوس.

☐ أخرى (يرجى التحديد) _____.

٧. العمل:

☐ أعمل.

☐ لا أعمل.

إذا كانت الإجابة أعمل، (يرجى تحديد طبيعة العمل) _____.

٨. معدل الدخل الشهري للأسرة:

- ☐ أقل من ١٥٠٠ شيكل.
☐ من ١٥٠١ إلى ٣٠٠٠ شيكل.
☐ من ٣٠٠١ إلى ٤٥٠٠ شيكل.
☐ أكثر من ٤٥٠١ شيكل.

٩. صلة القرابة مع الطفل:

- ☐ أم.
☐ أب.
☐ أخت.
☐ أخ.
☐ أخرى (يرجى التحديد) _____.

١٠. هل تستخدم الأدوية للأطفال بدون وصفة طبية (علاج ذاتي)؟

- ☐ نعم
☐ لا

١١. إذا كانت إجابتك في السؤال ١٠ أعلاه "نعم"، فكم مرة تستخدمها؟

- ☐ دائماً
☐ أحياناً
☐ نادراً
☐ عندما تكون الأعراض خفيفة
☐ أخرى (يرجى التحديد) _____.

١٢. سبب استخدام الأدوية للطفل بدون وصفة طبية (علاج ذاتي): (يمكن تحديد عدة خيارات)

- ☐ حمى.
☐ صداع.
☐ سعال.
☐ نزلات البرد.
☐ حموضة.
☐ استفراغ وغثيان.
☐ إسهال.
☐ مشاكل في الجلد.
☐ مشاكل في العين.
☐ مشاكل في الأذن.
☐ أخرى (يرجى التحديد) _____.

القسم الثاني: العلاج الذاتي:

أجب عن الأسئلة / العناصر التالية عن طريق وضع علامة (/) أمام (دائماً، معظم الأوقات، غالباً، أحياناً، نادراً) بما يناسبك. الرجاء عدم تحديد أكثر من خيار.

السؤال/العنصر	دائماً	معظم الأوقات	غالباً	أحياناً	نادراً
١٣. عندما يمرض الطفل في المنزل، هل تعطيه الدواء في المنزل؟					
١٤. عندما يمرض الطفل في المنزل، هل تذهب إلى الصيدلية وتشتري الأدوية لتعطيها له؟					

					١٥. عندما يمرض الطفل في المنزل، هل تستخدم الأدوية المتبقية من الوصفات السابقة لعلاجها؟
					١٦. في بعض الأحيان، في حالة المرض، هل تستخدم الوصفات الطبية السابقة لشراء أدوية جديدة للطفل؟
					١٧. هل تشتري الدواء من نصيحة الأقارب، أو الجيران، أو الأصدقاء، أو غيرهم؟
					١٨. كم مرة تقرر إعطاء الطفل الأدوية في المنزل قبل أخذه إلى المستشفى؟

القسم الثالث: المعرفة بالعلاج الذاتي:

أجب عن الأسئلة / العناصر التالية عن طريق وضع علامة (/) أمام (صحيح، خطأ، غير متأكد) بما يناسبك. الرجاء عدم تحديد أكثر من خيار.

السؤال/العنصر	صحيح	خطأ	غير متأكد
١٩. تتطلب العقاقير التي لا تستلزم وصفة طبية معرفة أساسية حول فعالية الدواء			
٢٠. عندما يمرض الطفل، من الضروري دائمًا اصطحابه إلى طبيب مؤهل.			
٢١. يمكن أن تؤدي العقاقير التي لا تتطلب وصفة طبية إلى بعض الآثار الجانبية (الآثار الضارة) بما في ذلك الموت.			
٢٢. يمكن أن تؤدي العقاقير التي لا تتطلب وصفة طبية إلى مقاومة الجسم لها.			
٢٣. قد يؤدي الاستخدام المستمر للعقاقير التي لا تستلزم وصفة طبية إلى الاعتقاد والادمان عليها.			
٢٤. في معظم الأحيان، الأدوية غير الموصوفة تؤدي إلى تعقيد وتفاقم مرض الطفل.			
٢٥. قراءة وفهم المنشورات في عبوة الدواء مهمة قبل تناول الدواء.			

القسم الرابع: المعتقدات حول العلاج الذاتي:

أجب عن الأسئلة / العناصر التالية عن طريق وضع علامة (/) أمام (موافق بشدة، موافق، غير متأكد، غير موافق، لا أوافق بشدة) بما يناسبك. الرجاء عدم تحديد أكثر من خيار.

السؤال/العنصر	موافق بشدة	موافق	غير متأكد	غير موافق	لا أوافق بشدة
٢٦. من المهم إعطاء الطفل الدواء في المنزل بمجرد أن يمرض.					
٢٧. إعطاء الدواء في المنزل هو تصرف جيد لمنع تطور المرض.					
٢٨. أقوم دائمًا بإعطاء الدواء للطفل بمجرد أن يمرض دون تأخير.					
٢٩. أستطيع أن أعالج طفلي في المنزل عن طريق شراء دواء من الصيدلية.					
٣٠. إذا مرض الطفل، فلا حرج في استعمال الأدوية المتبقية من الوصفات السابقة لعلاجها.					
٣١. يعتبر إعطاء الدواء في المنزل خطوة مهمة في الحفاظ على صحة الأطفال.					

القسم الخامس: ممارسة العلاج الذاتي:

أجب عن الأسئلة / العناصر التالية عن طريق وضع علامة (/) أمام (موافق بشدة، موافق، غير متأكد، غير موافق، لا أوافق بشدة) بما يناسبك. الرجاء عدم تحديد أكثر من خيار.

السؤال/العنصر	موافق بشدة	موافق	غير متأكد	غير موافق	لا أوافق بشدة
٣٢. عندما أعالج طفلاً في المنزل، أحرص دائماً على أن يكون الدواء آمناً.					
٣٣. إذا كانت إجابتك في السؤال السابق هي "موافق أو موافق بشدة"، فيرجى توضيح كيفية ضمان سلامة الدواء:					
٣٤. لا أستخدم العلاج بشكل ذاتي إلا بشرط أن تكون لدي قدرة جيدة على تشخيص / علاج الأعراض.					
٣٥. عندما تكون الحالة مشابهة لمرض سابق، يمكنني استخدام الأدوية غير الموصوفة.					
٣٦. يمكنني دائماً استخدام العقاقير غير الموصوفة عندما يوصي بها شخص ما.					
٣٧. عندما أستخدم العلاج بشكل ذاتي، أتأكد دائماً من معرفتي بهذا العلاج وطرق استخدامه.					
٣٨. قبل أن أستخدم علاج، يجب أن أكون على دراية بآثاره الجانبية المحتملة.					
٣٩. عندما أقوم بالتطبيب الذاتي، يجب أن يكون لدي معلومات حول كيفية مراقبة آثار الدواء.					
٤٠. أطلب المشورة من المختصين بعد فترة وجيزة من مرض طفلي.					

Annex 4: Research Ethics Committee at al Quds University.

Al-Quds University
Jerusalem
Deanship of Scientific Research



جامعة القدس
القدس
عمادة البحث العلمي

**Research Ethics Committee
Committee's Decision Letter**

Date: September 7th, 2022

Ref No: 244/REC/2022

Dears Dr. Mohammad Al-Jerjawi, Ms. Noor Ahmad Shmasneh,

Thank you for submitting your application for research ethics approval. After reviewing your application entitled "Knowledge, Beliefs, and Practices of Self-Medication in Children by their Parents in Ramallah and AL-Birah hospitals" the Research Ethics Committee confirms that your application is in accordance with the research ethics guidelines at Al-Quds University. We would appreciate receiving a copy of your final research report/ publication.

Thank you again and wish you a productive research that serves the best interests of your subjects.

PS: This letter will be valid for two years.

Sincerely,

Suheir Ereqat, PhD
Associate Professor of Molecular Biology

Research Ethics Committee Chair

Cc. Prof. Imad Abu Kishek - President
Cc. Members of the committee
Cc. file

Abu-Dies, Jerusalem P.O.Box 20002
Tel-Fax: #970-02-2791293

research@admin.alquds.edu

أبوديس، القدس ص.ب. 20002
تلفاكس: #970-02-2791293

Annex 5: Approval of Palestinian MOH.

State of Palestine
Ministry of Health
Education in Health and Scientific
Research Unit

دولة فلسطين
وزارة الصحة
وحدة التعليم الصحي
والبحث العلمي

رقم: ٥٥٩٨٤٦٥٤٤
التاريخ: ٢٠٢٢/٩/١٩

Ref.:
Date:

عطوفة الوكيل المساعد المدير التنفيذي لمجمع فلسطين الطبي المحترم،،،
تدعيه ولهذاهـ..

الموضوع: تسهيل مهمة بحث

مرفق طلب تسهيل مهمة الطالبة: نور احمد يوسف شماسه- ماجستير صحة الام
والطفل/ جامعة القدس، في عمل بحث بعنوان:

"معرفة ومعتقدات وممارسات العلاج الذاتي للأطفال من قبل أولياء امورهم في مستشفيات رام
الله والنبيرة"

من خلال السماح للطالبة بالحصول على معلومات من خلال تعبئة استبانة من قبل أهالي
الاطفال المرضى (بعد اخذ موافقتهم)، في الفترة من 2022/9/19-2022/12/31، وذلك في:

- مجمع فلسطين الطبي

على ان يتم الالتزام بالاساليب واخلاقيات البحث العلمي.
على ان يتم الالتزام بجميع تعليمات وإجراءات الوقاية والسلامة الصادرة عن وزارة الصحة بخصوص
جائحة كورونا، وتحت طائلة المسؤولية. وإبراز شهادة التطعيم قبل دخول مرافق وزارة الصحة.
على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التمهيد بعدم النشر لحين الحصول على موافقة
الوزارة على نتائج البحث. وتحديد دور وزارة الصحة.

مع التحية..

د. عبد الله القواسمي
رئيس وحدة التعليم الصحي والبحث العلمي

نسخة: منسقة برنامج الماجستير/ دائرة التمريض المحترمة/ جامعة القدس

Telfax: 09-2333901
scientificresearch.dep@gmail.com
09-2333901

Annex 6: Approval of hospitals.

Al-Quds University
Faculty of Health professions
Nursing Department
Jerusalem- Abu Dies

بسم الله الرحمن الرحيم

جامعة القدس
كلية المهن الصحية
دائرة التمريض
القدس-أبو ديس

التاريخ : 2022/9/25

حضرة السيد/ أ. أيمن لبد المحترم
مدير التمريض - مستشفى جمعية الهلال الأحمر الفلسطيني- البيرة

الموضوع : تسهيل مهمة طالبة ماجستير في جمع بيانات لغرض البحث العلمي

تحية طيبة وبعد ،،،،

يرجى من حضرتكم تسهيل مهمة الطالبة نور شماسنة تخصص ماجستير صحة الام والطفل - جامعة القدس في جمع بيانات من أولياء أمور الأطفال المرضى في مستشفاكم ، وذلك لغرض اجراء دراسة بحثية لرسالتها الماجستير بعنوان " معرفة ومعتقدات وممارسات العلاج الذاتي للأطفال من قبل أولياء أمورهم في مستشفيات رام الله والبيرة " . وذلك في الفترة ما بين 2022 /9 /25 - 2022 /12 /31 .

وتفضلوا بقبول فائق الاحترام والتقدير،،

منسقة برنامج الماجستير/ دائرة التمريض

د. ميساء الاسطة

مرفق: استبانة الدراسة ونموذج الموافقة المستنيرة

الانبار رزسا، لاسام التمريض
المستشفى الحزبي، أبو ديس
مهمة الطالبة لغرض البحث العلمي
الفنك بالسرور، البيرة، البيرة، البيرة
البيانات، البيرة

Tel : + 02 2799753
Fax : + 02 2791243

2799753 : تلفون
2791243 : فاكس

2/10/2022

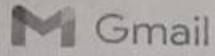
IAH Research Application Form

Date	19-9-2022
Name of investigator	Noor ahmad Yousef shamasneh
Mobile No.	0569846044
Email	nona.daoud832@gmail.com
Expected start date	1-10-2022
Expected completion date	1-11-2022
Name of Company/University	Al-Quds University
Attached needed	
Investigator CV	<input type="checkbox"/> Yes <input type="checkbox"/> No
Study Proposal	<input type="checkbox"/> Yes <input type="checkbox"/> No
Consent Form	<input type="checkbox"/> Yes <input type="checkbox"/> No
Data Collection Tools	<input type="checkbox"/> Yes <input type="checkbox"/> No
Informed Consent (Arabic & English)	<input type="checkbox"/> Yes <input type="checkbox"/> No
For HR Department	
Receiving Date	
Application completed	<input type="checkbox"/> Yes <input type="checkbox"/> No
Transfer Date	
Educational Officer Signature	
For Ethical Committee	
Receiving Date	
Ethical Committee Approval	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Ethical Committee Note	- questionnaire based study. - nothing to Declare approved
Head of Ethical committee Sig.	27/9/22
CEO Note	OK
CEO Sig.	

• For Non-Experimental Research only

12/14/22, 10:36 AM

Gmail - تسهيل مهمة طالبة ماجستير - جمع بيانات



Ahmad Atari <ahmad.alatari@gmail.com>

تسهيل مهمة طالبة ماجستير - جمع بيانات

Ahmad Atari <ahmad.alatari@gmail.com>
To: Maysaa Osta <mosta@staff.alquds.edu>

Wed, Dec 14, 2022 at 10:36 AM

تحية واحترام

بخصوص الاستبيان الخاص بالطالبة نور شعامة لديكم لا مانع لدينا من اجراء الاستبيان علما ان الطالبة حضرت الى المستشفى وقامت بعمل الاستبيان مع ذوي العلاقة.

[Quoted text hidden]

وتفضلوا بقول فائق الاحترام



Annex 7: Consent form.



Faculty of graduate studies.

عزيزي/تي المشارك/ة:

أنا الطالبة نور شماسنه، أدرس ماجستير تمرير الأطفال بكلية الدراسات العليا، في جامعة القدس أبو ديس.

أقوم بإعداد دراسة بعنوان:

"معرفة ومعتقدات وممارسات العلاج الذاتي للأطفال من قبل أولياء أمورهم في مستشفيات رام الله والبيرة".

باعتباره متطلب للتخرج والحصول على درجة الماجستير، وتم اختيارك بناءً على مطابقتك لشروط العينة.

تهدف الدراسة إلى تقييم معرفة الوالدين ومعتقداتهم وممارساتهم فيما يتعلق باستخدام الأدوية لأطفالهم في مستشفيات رام الله والبيرة.

أشكر لك مشاركتك في هذه الدراسة، وفي حال أنّ الموعد غير مناسب الرجاء تحديد موعد آخر يناسبكم.

مشاركتك طوعية، ويمكنك رفض المشاركة أو الإجابة عن أي سؤال، وأرجو أن أؤكد لك أنّ المعلومات ستكون سرية ولن تستخدم إلا لغرض البحث العلمي، لذا أرجو أن تكون الإجابات دقيقة.

قبل البدء، هل تودين الاستفسار حول أي شيء عن الدراسة وهل من الممكن أن نبدأ المقابلة؟

() نعم

() لا

توقيع المشارك:

أشكرك على حسن تعاونك