KNOWLEDGE, PERCEPTION AND PRACTICES OF SELF MEDICATION AMONG HOUSEHOLDS IN CHILDREN UNDER FIVE YEARS IN BORAMA DISTRICT, SOMALILAND

Subtitle: SELF MEDICATION

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LIST OF ABBREVIATIONS AND ACRONOYMS

OTC: Over-the-counter medications

WHO: World health organisation

SM: Self medication

KPP: Knowledge, Perception and Practice

ABSTRACT

Background: Self medication is the obtaining and consumption of a drug without the advice of physician either for diagnosis, prescription or surveillance of the treatment or medication of oneself. Self medication is a problem in countries such as Somalia it is commonly used and over usage can lead to e.g. antibiotic resistance and serious adverse effects from the drug. In Somaliland it has not yet been documented how frequently the usage is, what are the associate factors and what the problem is in regard to knowledge, perception and practice, Thus, the aim of study is to assess the association between knowledge, perception and practice and use of self medication among the households with under the five years old children in Borama town. Study guided by the Theory of Planned Behavior (TPB).

Methods: The study was conducted in Borama town; it is the capital and the largest city of the north western Awdal region of Somaliland; Study adopted cross-sectional research design in quantitative approach. The sample size designed for this study was 384, but 350 households returned to complete data with 91.14% response-return-rate through stratified sampling in administrative villages and simple random sample for caretakers with use of self medication. Study used structured questionnaire and association factors were analyzed with chi-square and descriptive statistics.

Results: The study found that knowledge factor, $p = 0.010$ ($p<0.05$); perception factor, $p = .000$ ($P<0.05$), and practice factor, $p = .000$ ($p<0.05$) are significantly associated with use of self medication since the data was analyzed at 0.05 levels of significances.

Conclusion: the study conclude that perception is a significant determinant of the self medication among the households with under five children in Borama town means that orientation, disposition and inclination of caretakers are important factors to consider in the management of self medication. The study recommends that the Ministry of Health to carry out awareness campaigns on relationships between basic knowledge, perception and standard practice of medication with particular focus on caretakers with use of self medication.

INTRODUCTION

Background to the Study

The practice of self-medication is a global phenomenon [13], which has become an issue of much debate in health care [31]. The phenomenon is not restricted to a region or race: both developing and developed countries are experiencing significant prevalence of self-medication [40]. Every day, many people around the world practice self-care through self-medication which is now increasingly being considered as a component of self-care [20]. The issue of self medication was first recognized as public health concern in 1960'sdue to its high prevalence. It originated from papers by Edward Khantzian, Mack and Schatzberg [22]. Around the 1960s, in the West, self-care and self-medication were regarded as unnecessary and potentially even unhealthy practices [32]. This paternalistic approach to medicine, supported by health systems designed to treat sickness (rather than to prevent disease), remains a familiar aspect of health care in many countries to this day [33].

It was discovered that self medication can lead to wastage of resources, increased resistance of pathogens and increased side effects; and it generally entails serious health hazards such as risk of drug interactions, adverse drug reactions, prolonged suffering and drug dependence [35]. As a result, several states and nations have moved to control the practice and taken the significant steps to regulate responsible self-medication. This has been done by making available of safe drugs along with proper instructions about their use and if need be, a consulting a physician (WHO, 2010). Examples of such states include Kenya, were legal provisions existing that govern dispensing practices of pharmaceutical personnel and professional codes of conduct for pharmaceutical personnel [21]. In Somaliland, there is no

clear guidance and regulation for self medications. It is quite common to see self-medication practices and which are an emerging challenge to health care providers, while there is evidence that the practice is quite prevalent, the factors behind had not been investigated.

Self-medication has traditionally been defined as the taking of drugs, herbs or home remedies on one's own initiative, or on the advice of another person, without consulting a medical qualified personal [14]. According to WHO, self-medication is the obtaining and consumption of a drug without the advice of physician either for diagnosis, prescription or surveillance of the treatment. It is medication of oneself without the advice of a physician. It is a non-formal health service and health related decision making which occurs in normal social context of everyday lives [40]. Thus, self-medication is just self-treatment.

The World Self-Medication Industry define self medication as the treatment of common health problems with medicines especially designed and labeled for use without medical supervision and approval as safe and effective for such use [43]. As used in this study, self-medication is the use of medicine or drug without the guidance and/or approval of physician for diagnosis, treatment, or supervision of the treatment. It generally involves over-the-counter (OTC) medications but also includes prescription-only medicines (POM); buying drugs by reutilizing or resubmitting a previous prescription, taking medicines on advice of a relative or others, or consuming leftover medicines already available at home [18].

Self-medication is far from being a completely safe practice: it has several consequences for health. It can lead to incorrect self-diagnosis, delays in seeking the vital medical advice when needed and to infrequent but severe adverse reactions. It can also lead to incorrect dosage, poly pharmacy and dangerous drug interactions that can also be misused by the community

and/or patients [44]. This can lead to noncompliance with a drug regimen which can result in serious outcomes like adverse drug reaction and reduction in the quality of treatment [19].

Self medication leads to increase in pathogens resistance, drug dependence, and incorrect administration. This can result into wasting of resources, incorrect choice of therapy, masking of a severe disease and risk of dependence and abuse [45]. Self medication can also lead to fever, headaches, and cough; as well as diarrhea, cold, acidity, and pain condition. As [44] points out, self medication may have certain benefits such as quick relief, and active role of the patient in his or her own health care and better use of physicians and pharmacists skills. It can also lead to reduce the cost of treatment [32]; and to reduced travelling and consultation time [29]. But it remains a discouraged protection with more disadvantages their concepts. It is therefore important that self medication be reduced to minimum as a strategy for promoting public health. But despite it is associated problems, the prevalence of self medication has not only been high, but as in fact been increasing.

Globally, self-medication has been reported as being on the rise and has become a public health concern [12]. In developing countries, people are not only using non-prescription drugs but also prescription drugs, as self-medication products without supervision. The World Health Organization has emphasized that self-medication must be correctly taught and controlled the use is nonetheless rampart [39]. The prevalence of self medication in Greece was 77.9% in 2010 [37], 98% in Palestine [34], 71% in India 2011 [11] and 76% in Pakistan 2012 [46]. The rates are similar in Africa. It is 99.4% in Nigeria [7] with 72.4% among pregnant women [1]. It is 56% in Malawi [12]; 53.5% Kenya [24]; 75.7% in Uganda [25] and 50% in Ethiopia [47]. In Somalia and Somaliland, no data is available on the

current prevalence of self medication. But in Borama, the prevalence of self medication for patients attending Borama General Hospital in 2016 was put at 87% (Annual Disease Surveillance Report, 2016). This increased from 80% in 2015 (Annual Disease Surveillance Report, 2015); and currently stands at 95.3% in 2017 (Annual Disease Surveillance Report, 2017). Despite the high prevalence, the major predisposing factors remained largely unknown.

Several factors have been associated with predisposal to self medication. Patterns vary among different populations and are influenced by various factors, such as age, gender, expenditure, self-care orientation and socioeconomic [28]. Also tells of educational level, socioeconomic status, access to medical information, awareness about health etc. but accessibility to medicine and health care facilities, medical knowledge, satisfaction, and no seriousness of illnesses attitude are also predisposing factors [28]. High illiteracy rate and poor exposure to medical information in most developing countries are some of the contributing factors to the high prevalence of self medication [33].

Parents' awareness of self medication and its associated side effects could also influence self medication [3]. Other factors include distance to the hospital, availability and easy access of medicines in pharmacies or other shops, poverty and nature of the illnesses [11]. People also practice self medication due to cost factor. But some people especially in rural areas get involved as a result of peer influence and unavailability of healthcare services not especially in the rural areas, poverty and unawareness [4].

Further, people also indulge in self-medication due to lack of money, ignorance, long distance to healthcare facility, mild/minor illness, and due to poor attitude of health workers.

It can also be due to re-treatment of similar illness and lack of health personnel [25]; or due to need to reduce on travel and session time and the direct financial cost of treatment [2].But beliefs and culture of the population are also significant factors [36]. But it is also economic support [25]. But of important concern to this study are knowledge, perception and practice. This is because these factors are fundamental in any health seeking behavior. This is also in line with the Theory of Planned Behavior (TPB), since a person's intention to perform a behavior is influenced by his or her attitude toward the behavior [5].

Knowledge deals with the awareness, understanding, or information or fact that has been obtained by experience or study (Cambridge Dictionary, 2015). In health knowledge influence the capacity to acquire, retain and use information. It can also influence comprehension, experience, discernment and skill in health. In public health practice, knowledge can significantly contribute to improving patient safety and reducing harm [40].Perception is closely related to attitude Adler refers to it as inclinations to react in certain way to certain situations, to see and interpret events according to certain predispositions [41]. Perception about the health services can shape utilization of the health service in several ways. It can lead to a safety culture among the patients. Accordingly, it is necessary to examine patient safety within the context of perception, attitudes, and behaviors.

Practice is the application of rules and knowledge that leads to action [41]. In health practice, practice deals with how individuals treat their ailments and conditions with medicines which are approved and available without prescription and which is a safe and effective way. Good practices of self medication require that medicines used be of a proven safety, quality and efficiency [42]. The triad of knowledge, perception and practice in

combination governs all aspects of life in human societies, and all three pillars together make up the dynamic system of life itself [41]. It is therefore in order to determine how knowledge, perception and practice should influence self medication by individual or by a people.

In view of the high prevalence of self medication in Borama District, and taking into account its multiple side effects, the responsible factors should be investigated. Therefore, guided by the Theory of Planned Behavior (TPB), this study delved into this issue. The theory of TPB was developed by IcekAjzen in 1991 and postulates that a person's intention to perform a certain behavior is influenced by his or her attitude toward the behavior, subjective norms (perceived social pressure about the behavior), and perceived control over performing the behavior [5]. Intention is an indication of extent to which people are willing to perform a behavior. The theory holds that three factors: attitude, subjective norm and perceived behavior control. Indicate the prosperity of a passion to undertake and persist in behavior. Intention is initiated by these three factors [5]. As applied to the study, the theory holds that the strength of a person's attitude is influenced by how much value is placed on the outcome of the behavior. Therefore, a person who believes that the self medication is safe and socially acceptable, and who places high value on pain relief will be more likely to use self medication. Knowledge, perception and practice are also the same variables embedded in TPB. Moreover, in tends to influence the community to reduce self medication. This reduction is based on behavior change which is also what the theory proposes. These linkages made the theory suitable for the study.

As concern related studies, none studies in Somaliland have explored the burden and common practices of self-medication in children under five despite widely reported literature

on irrational drug use in sub-Saharan Africa communities. Studies on public health in Somaliland and in Borama District have not delved into this issue. A study by [10] investigated knowledge, attitude and practice of e-health among health professional in Borama District. But she did not focus on knowledge, perception and practice of self medication. [8] investigated self-care and diabetes management. While self care is close to self medication, she did not study to self medication in children. [9] Investigated households and exclusive breast feeding under 5 years children in Borama District. While studied children under five years, she did not study self medication. None of the studies relate to knowledge, perception and practice of self medication in children under five years old in Borama District. This created the gap to the filled by this study.

The Conceptual Framework of the Study

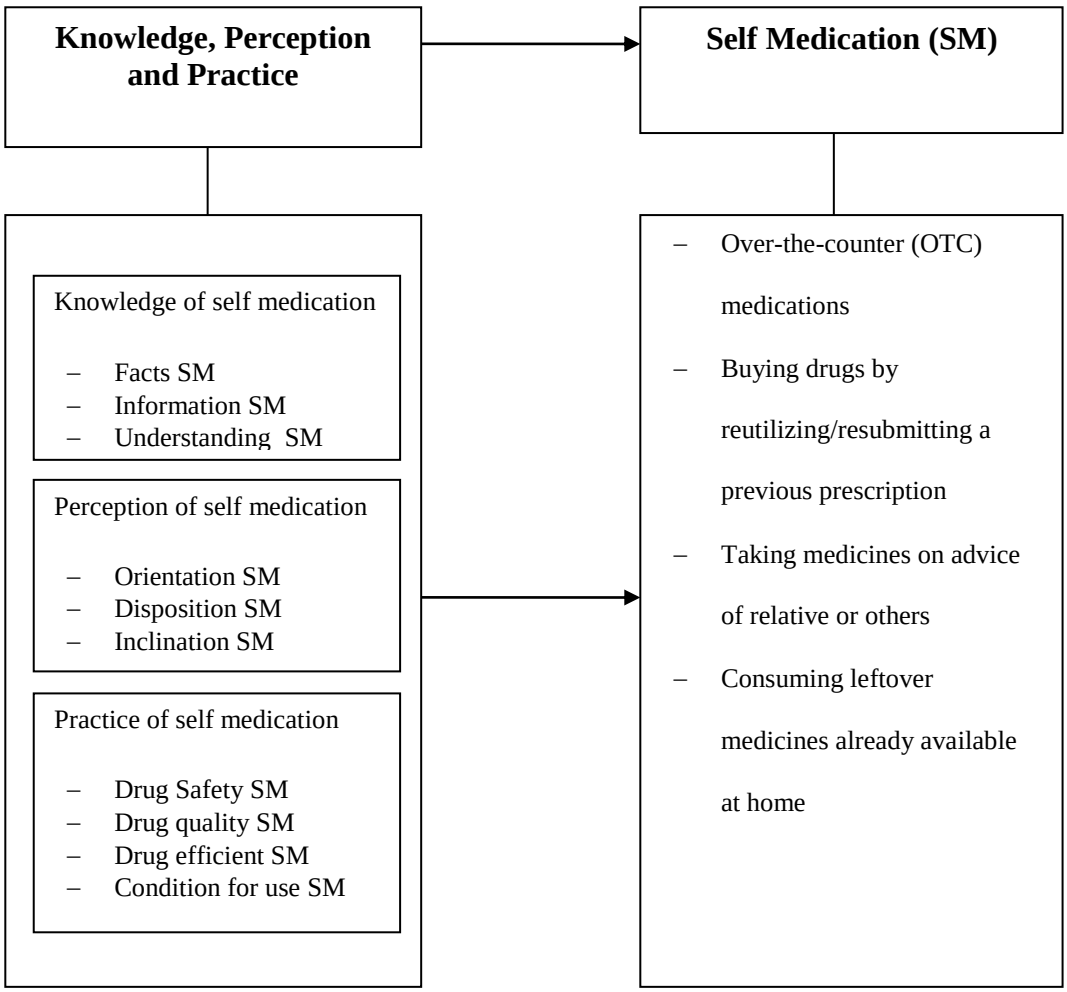

Figure 1 Conceptual framework for determining self medication

Research Aims

The general aim of this study was to determine the prevalence of self medication and to assess the association between knowledge, perception and practice of self medication and the use of self medication among the households with under the five years old children in Borama.

The study was guided by in the following specific objectives:

The study use to:

1. Determine the prevalence of self medication among the households in under five years old children in Borama town
2. Determine the association between knowledge, perception and practice of self medication and use of self medication among the households in under five years old children in Borama town

The study aim is to contribute with evidence that can help reducing the use of self medication.

METERIALS AND METHODS

Study Design

The study adopted a cross-sectional survey research design with a quantitative approach. This enabled the researcher to obtain an overall picture as it stood at the time of the study. Cross-sectional surveys is also the basis for assessing practices, attitudes, knowledge and beliefs of a population in relation to a particular health related event [27].

Study Setting

The study was conducted from June 2017 to May 2018in Borama town; the capital and the largest towns of the north western Awdal region of Somaliland, situated near the border with Ethiopia. The city comprises four main administrative sectors with an estimated population of 215,616 people [38]. The study targeted the households with children under five years of age in Borama town; the study participants was caretakers in these households who did with the child under their care. Residents (Caretakers) of four main administrative sectors in Borama in households with under five years old child were included. Caretakers who were unable to effectively comprehend and express information regarding the child under their care due to various reasons like mental disability, very elderly and very young were excluded, so are those who did not consent to the study. The participants invited for this study was 384, but 350 households returned to complete data. This was a 91.14% response-return-rate.

Study Size

The study size was composed of 384 households with under five years old children in Borama town. The sample size was determined according to the Kish Leslie formula to

estimate a single population proportion [23]. The sample size necessary to reach the study objectives was estimated considering a 95% confidence interval, a 5% margin of error, and an expected 50% of subjects who have practiced self-medication (See Appendix B).

Sampling Procedures

The study adopted stratified sampling technique. Stratified sampling was used to determine the number of the households from each village of Borama town to be included in the sample. Stratified sampling ensured that the households from village in town were equitably represented in the sample and also improved representation of the sample, and ensured high population validity [26].

All the four main administrative sectors in the study town were considered. The number of households from each administrative sector (village) was used as stratum. Equal number of participants was invited for all four stratums; this means 384 participants divided by four and hence 96 participants per stratum (village) were interviewed.

Once the sizes of each stratum were determined, the participants from households of each cluster were selected using simple random sampling by utilizing water company household number as sampling frame. It was used to ensure that the sample was random and a fair representation of participants in four stratums in Borama. In the occurrence that a given households had no children below age of five years, the next household in the same stratum (village) was considered. A household was defined as a group of people who live and cook together in the scope of the study.

Data Collection

The study was conducted in the households in Borama town during regular day hours. The study was conducted by researcher with the help of trained internship public health students to make sure the participants felt comfortable in participating in the study. The questionnaire technique also provided sufficient time to the participants to work at their space without strain from the interviewer. It is efficiency in data collection, ability "to stand on its own" and to enable a researcher to collect data without data requiring much contact with respondents [27], were additional key considerations. The study used structured questionnaire (Appendix B). A structured questionnaire is formed exclusively from close-ended items in single tool [26]. This enabled the respondents to answer uniformly across the instruments. Structured questionnaires also facilitated fast data analysis than completely unstructured questionnaire [27]. Its main purpose was to ensure that quantitative data were collected for a detailed description of knowledge, perception and practice of self medication on the use of self medication [26]. The variables in this research study consisted of use of self medication (dependent variable) and knowledge, perception and practice of self medication (Independent variable). Additional variables were demographic information of participants. The questionnaire had five main sections: a section of demographic information, use of self medication, knowledge of self medication, perception of self medication and practice of self medication.

Apart from demographic information questions, self medication consisted of 6 questions (section II in Appendix B). Each question had five response alternatives and these 6 questions and three alternatives were added to an index ranging between 6 and 18. The scores were converted into the scale of low to high and were classified such that 6-9 scores were rated low

and coded 1; scores of 10-13 were rated moderate and coded 2; scores of 14-18 were rated good and coded 3. Knowledge consisted of 7 questions. Each question had three response alternatives and three alternatives were added to an index ranging between 7 and 24. The scores were converted into the scale of poor to good and were classified such that 7-12 scores were rated poor and coded 1; scores of 13-18 were rated moderate and coded 2; scores of 19-24 were rated good and coded 3.

Perception consisted of 6 questions. Each question had a five response alternatives and three alternatives were added to an index ranging between 6 and 30. The scores were converted into the scale of negative to positive and were classified such that 6 – 13 scores were rated negative and coded 1; scores of 14-21 were rated indifferent and coded 2; and scores of 22-30 were rated positive and coded 3. Practice consisted of 8 questions. Each question had a five response alternatives and three alternatives were added to an index ranging 8 – 40. The scores were converted into the scale of poor to good and were classified such that 8 – 18 scores were rated poor and coded 1; scores of 19 – 29 were rated moderate and coded 2; scores of 30-40 were rated good and coded 3. All variables of self medication, knowledge, perception and practice was coded and scored on a minimum of 1 and maximum of 3. The variable were coded and rated as summarized in Table 1.

Table 1 Summary of Measurement of Variable

Variable	Indicator	Score	Code	Status	Scale	Analysis
Self medication	Over-the counter Reutilizing Left over/Prev. med	06 – 09 10 – 13 14 – 18	1 2 3	Low Moderate High	Interval	Independent χ^2
Knowledge	Facts Information Understanding	07 – 12 13 – 18 19 – 24	1 2 3	Poor Moderate Good	Interval	Independent χ^2
Perception	Orientation Disposition Inclination	06 – 13 14 – 21 22 – 30	1 2 3	Negative Indifferences Positive	Interval	Independent χ^2
Practice	Drug Safety Drug Quality Drug Efficient	8 – 18 19 – 29 30 – 40	1 2 3	Poor Moderate Good	Interval	Independent χ^2

Statistical Methods

The study used descriptive statistics (frequency, percentage, mean) and chi-square test of independence method to identify significant association of knowledge, perception and practice of self medication usage. It is a technique of a statistical measurement used to assess how expected frequencies compare to actual results (Levinger, 2016); so as to determine whether there is a significant association between two variables (Levinger, 2016).Chi-square is the ideal test when the data is in the form of categorical frequencies. The results were presented in absolute figures (percentages) as depicted in tables, graphs and charts. In this study, the researcher had 3×3 contingency table. The data was analyzed at 5% margin of

error, confidence level of 95% and 0.05 levels of significances. These statistics were selected because they are the conventional measures in social science research (Oso, 2016). All statistical analyses were performed using IBM SPSS Version 20.

Ethical Considerations

A formal letter of ethical approval and clearance was obtained from the Research Ethical Committee (REC) from School Postgraduate Studies and Research, Amoud University and Ministry of Health. REC reviewed the proposal, the questionnaire, and consent form before providing clearance. The study participants were informed about the objective, rationale and expected outcomes of the study and written consent were obtained for guaranteeing their choice of participation or refusal. All the information was recorded anonymously and confidentiality was assured throughout the study.

RESULTS

Table 2 Characteristics for the Study Population (n = 350)

Characteristic	Group	Number	Percent
Gender	Female	305	87.1
	Male	45	12.9
Age	≤ 19	14	4
	20 – 29	80	22.9
	30 – 39	128	36.6
	40 – 49	105	30.0
	≥ 50	23	6.6
Formal Education	Illiterate	168	48.0
	Primary	122	34.9
	Secondary	36	10.3
	University	19	5.4
	Others	5	1.4
Monthly family income (in United States dollar)	0 – 100	102	29.1
	101 – 200	104	29.7
	201 – 300	82	23.4
	301 – 400	48	13.7
	≥ 500	14	4.0
Occupation	None	174	49.7
	Casual labor	52	14.9
	Formal Employment	54	15.4
	Self employed	67	19.1
	Others	3	.9
Siblings	None	8	2.3
	1 – 2	169	48.3
	3 – 4	103	29.4
	6 – 7	53	15.1
	≥ 8	17	4.9

The sample size invited for this study was 384 household participants, but 350 household participants returned to complete data. This was a 91.14% response-return-rate, which was acceptable since it was more than 70% response-return-rate recommended in social science research (Oso, 2016).

General Characteristics

Of the 350 respondents, (87.1%) were females. 36.6% of the respondents were aged 30 – 39 years and only 6.6% were aged 50 years and above. For formal educational level, most (48%) were illiterate (no education) while (5.4%) had university level of education. 58.8% respondents had monthly family income of less than $200 while (4%) where income of $500 and above. 48.3% respondents had siblings between one and two children. 50% of the respondents had no occupation or unemployment. The demographic characteristics were presented in Table 2.

Prevalence of Self Medication

A total of 350 respondents, 82% (n=288) respondents reported using drugs to their children by self medication which show high prevalence for the choice of treatment. Of the 288 respondents, Fever/Headache 124 (43.1%), Cough/Cold 77 (26.7%), Diarrhea 32 (11.1%) and Nausea/Vomiting 23 (8%) are most common illnesses where self-medication is being used to their children.

Knowledge of Self Medication and Use of Self Medication

Knowledge of self medication and use self medication among participants with children under five years old in Borama town were tested by independence chi square test. The information on the column shows the use self medication while data on the raw shows the knowledge of self medication. Data on knowledge of self medication shows that 106 (30.3%) of the participants have a poor knowledge of self medication while 34 (9.7%) had good knowledge of self medication while data on the use of self medication shows that most (40%) of participants had high use of self medication while 20.30% had low use of self medication.

This confirms that use of self medication is high among participants with children under five years old in Borama town.

On cross-examination of knowledge of self medication and use of self medication, beginning from low use of self medication column, most (8.9%) of the participants with poor knowledge of self medication had low use of self medication. But only 2.9% of the participants with good knowledge of self medication had low use of self medication. On the moderate use of self medication; most (24.3%) of the participants with moderate knowledge of self medication had moderate use of self medication while 3.4% of the participants with good knowledge of self medication had moderate use of self medication. In high use of self medication, most 27.1% of the participants with moderate knowledge of self medication had high use of self medication while 3.4% of the participants with good knowledge of self medication had high use of self medication. The results suggest an association between knowledge of self medication and use of self medication: the poorer the knowledge of self medication the higher the use of self medication and vice versa. To further investigate this association, the data in (Table 3) was subjected to chi-square test of independence to investigate if the use of self medication is dependent on knowledge of self medication. This claim was investigated under the hypothesis that;

> There is no significant difference in the number of participants that use self medication with the knowledge of self medication among the households with under five year's old children in Borama district.
>
> H_{o1} :$f_{O\ KS*SM} = f_{e\ KW*SM}$ where, KS = knowledge of self medication and SM = use of self medication

The data shows that χ^2 (n = 350) = 13.23, p = 0.010, which led to rejection of the null hypothesis. The use of self medication among the participants with under five years old children is significantly dependent on knowledge of self medication. Participants with poor knowledge of self medication tend to use self medication more than participants with good knowledge of self medication. Therefore, use of self medication depends on knowledge of self medication among the parcipants: the better the knowledge, the lower the use of self medication. The results summarized in Table 3.

Table 3 Knowledge of Self Medication and Use of Self Medication

		Use of Self Medication[a]					
		Low	**Moderate**	**High**	**Total**	**Chi**	**Sig.**
Knowledge	Good	10 (2.9%)*	12 (3.4%)	12 (3.4%)	34 (9.7%)	13.23	0.010
	Moderate	30 (8.6%)	85 (24.3%)	95 (27.1%)	210 (60%)		
	Poor	31 (8.9%)	42 (12.0%)	33 (9.4%)	106 (30.3%)		
	Total	71 (20.3%)	139 (39.7%)	140 (40%)	350 (100%)		

[a] For self medication "Low" corresponds to the responses poor or very poor and "High" corresponds to the responses good or very good.
* Total percentage

Perception of Self Medication and Use of Self Medication

Perception of self medication and use self medication among participants with children under five years old in Borama town were tested by independence chi square test. The information on the column shows the use self medication while data on the raw shows the perception of self medication. Data on perception of self medication shows that 191 (54.6%) of the participants have a positive perception of self medication while 36 (10.3%) had negative perception of self medication whereas data on the use of self medication show the

same information contained in (Table 3) and most (40%) of participants had high use of self medication while 20.30% had low use of self medication. This confirms that use of self medication is high among participants with children under five years old in Borama town.

On cross-examination of perception of self medication and use of self medication, and beginning from low use of self medication column, most (9.1%) of the households with indifferent perception of self medication had a low use of self medication while (5.1%) of the households with negative perception of self medication had low use of self medication. On the moderate use of self medication column, most (20.3%) of the households with positive perception of self medication had moderate use of self medication while 3.4% of the households with negative perception of self medication had moderate use of self medication. In high use of self medication column, most (28.3%) of households with positive perception of self medication had high use of self medication while only 1.7% of households with negative perception of self medication had high use of self medication. These results gently suggest an association between perception of self medication and use of self medication: positive perception of self medication tends to be associated high use of self medication among the households, and vice versa.

To further investigate this relationship, the data in Table 4 was subjected to chi-square test of independence to investigate if the use of self medication is independent on perception of self medication among participants with under five years old children in Borama town. This claim was investigated under the hypothesis that;

> There is no significant difference in the number of participants with under five years old children who use self medication and those who do not under the difference of perception of self medications.

H_{o2} :$f_{O\ PS*SM} = f_{e\ PS*SM}$ where, PS = Perception of self medication and SM = use of self medication

The data shows that χ^2 (n = 350) = 43.198, *p*= .000, which led to rejection of the null hypothesis. There is a significant difference in the number of participants that use self medication and those that do not use self medication under different perceptions of self medication. Use of self medication is significantly dependent on perception of self medication among the households. High, moderate and low use of self medication is found differently among households with positive, indifferent, and negative perception of self medication. Therefore, participants with positive perception of self medication tend to use self medication more than participants with negative perception. Hence use of self medication is significantly dependent on perception of self medication.

Table 4 Perception of Self Medication and Use of Self Medication

		Use of Self Medication[a]					
		Low	**Moderate**	**High**	**Total**	**Chi**	**Sig.**
Perception	Negative	18 (5.1%)*	12 (3.4%)	6 (1.7%)	36 (10.3%)	43.2	.000
	Indifferent	32 (9.1%)	56 (16.0%)	35 (10.0%)	123 (35.1)%		
	Positive	21 (6.0%)	71 (20.3%)	99 (28.3%)	191 (54.6%)		
	Total	71 (20.3%)	139 (39.7%)	140 (40%)	350 (100%)		

[a] For self medication "Low" corresponds to the responses poor or very poor and "High" corresponds to the responses good or very good.
* Total percentage

Practice of Self Medication and Use of Self Medication

Practice of self medication and use self medication among participants with children under five years old in Borama town were tested by independence chi square test. The information on the column shows the use self medication while data on the raw shows the practice of self medication. Data on practice of self medication shows that 72 (20.6%) of the participants have a poor practice of self medication while 5 (1.4%) had good practice of self medication apart from 273 (78%) of moderate practice of self medication whereas data on the use of self medication show the same information contained in (Table 3 and 4) and most (40%) of participants had high use of self medication while 20.30% had low use of self medication. This confirms that use of self medication is high among participants with children under five years old in Borama town.

On cross-examination of practice and use of self medication, and beginning from low use of self medication, most (18.6%) of the participants with moderate practice of self medication had low use of self medication. But 0.6% of the participants with good practice of self medication had low use of self medication. A long the moderate use of self medication, most (32.3%) of the households with moderate practice of self medication had moderate use of self medication. But 0.6% of the households with good practice of self medication had moderate use of self medication. In the high use of self medication, most (27.1%) of the households with moderate practice had a high use of self medication while only 0.3% of the households with good practice of self medication had high use of self medication. The results point to an association between practice of self medication and use of self medication; households with a good practice of self medication tend to have a low use of self medication and vice verse. This position was investigated by chi square test of independence to determine

if use of self medication is dependent on practice of self medication among households with under five years old children in Borama district. The claim was investigated under the hypothesis that;

There is no significant difference in the use of self medication among households with good, moderate and poor practice of self medication.

H_{o3} :$f_{O\ PR*SM} = f_{e\ PR*SM}$ where, PR = Practice of self medication and SM = use of self medication

The data shows that χ^2 (n = 350) = 21.63, p= .000, which led to rejection of the null hypothesis. This means that the use of self medication is significantly dependent on practice of self medication among households with under five years old children in Borama town. High, moderate and low use of self medication is found differently among participants with good, moderate and poor practice of self medication. Participants with good practice of self medication tend to have low use of self medication in households with under five years old children in Borama town. The results of analysis are summarized in Table 5.

Table 5 Practice of Self Medication and Use of Self Medication

		Use of Self Medication[a]					
		Low	**Moderate**	**High**	**Total**	**Chi**	**Sig.**
Practice	Good	2 (0.6%)*	2 (0.6%)	1 (0.3%)	5 (1.4%)	21.63	.000
	Moderate	65 (18.6%)	113 (32.3%)	95 (27.1%)	273 (78%)		
	Poor	4 (1.2%)	24 (6.9%)	44 (12.6%)	72 (20.6%)		
	Total	71 (20.3%)	139 (39.7%)	140 (40%)	350 (100%)		

[a] For self medication "Low" corresponds to the responses poor or very poor and "High" corresponds to the responses good or very good.
* Total percentage

DISCUSSION

This study was to determine the prevalence of self medication and to assess the association between knowledge, perception and practice of self medication and the use of self medication among the households with under the five years old children in Borama, Somaliland. The participants invited for this study was 384, but 350 households returned to complete data. This was a 91.14% response-return-rate, which was acceptable since it was more than 70% response-return-rate recommended in social science research [26].

The study found the prevalence of self-medication was 82%. This was reliable with the global variation of prevalence of self-medication which has been reported by various studies to range between 50-99%. Thus, the prevalence of this study was higher than that reported by some East Africa countries like Kenya 53.5% [24]; Uganda 75.7% [25] and Ethiopia 50% [47] but was lower than that reported by Nigeria 99.4% [7]. This disparity in the prevalence could have arisen from the difference in the study populations and the socio-economic and cultural attributes between the communities in these countries. The finding of self medication to be significantly associated with family income and education status and in this study correlates with similar reports of high prevalence of self medication reported in studies carried out in most urban and more literate populations in Africa and Asia [6]. This trend could be because people of higher socioeconomic status have the resources to access the information on drug use and to purchase the drugs. This therefore requires broader comparative studies of the self-medication patterns between people of high and low socioeconomic status as their drug use patterns may be different from that of people of mainly low socio economic status seen in our study.

The common illness for which self-medication was used in children were fever/headache 43.1%, cough/cold 26.7%, diarrhea 11.1% and nausea/vomiting 8% which was lower than reported in Uganda were cough 56.9%, fever 51.8% and abdominal symptoms including vomiting and diarrhea [6]. It is not surprising that these symptoms were the ones for which caretakers provided self-medication, since they are the main symptoms of common childhood illness reported globally by the WHO [48]. The difference in symptom patterns and burden may be explained by the difference in study population and setting.

. The finding showed significant association of knowledge of self medication and use of self medication. The finding was in line with the context of other previous studies. For example, this compares favorably to studies done by [17] and by [15]. [17] Studied self medication trends in children by their parents, knowledge of self medication and their attitude towards this practice among 400 parents visiting health care facilities in Lahore, Pakistan. They found that among parents, educated parents usually practiced it due to some knowledge of disease and medicines. It was observed that educated parents practiced self-medication more as compared to less educated and illiterate [17]. [15] Investigated self-medication among children and adolescents in Germany: results of the National Health Survey for Children and Adolescents (KiGGS) among sample of 17,450 children aged 0–17 years who participated in the 2003-2006 German Health Interview and Examination Survey for Children and Adolescents. He found that self-medication prevalence was also found to be high in educated mothers. In Germany, higher socioeconomic position and higher level of mother's education were reported as the main factors associated with self-medication [15]. These findings all support the fact that knowledge of caretakers is associated with self medication

usage. Thus, the presenting finding is in line with this study. Thus, the study results advice immediate move towards educating caretakers on a risk of self medication usages in children.

The study shows that perception is linked to self medication. This is in line with findings from [4] and [49]. [4] Studied Sudanese parents' knowledge, attitudes and practice about self medication to their children: He found parent’s perception is significantly associated with their practice of self medication. The results showed that 84% of the parents preferred the western medicines compared to the traditional ones due positive perception. This is probably because most of the respondents were well educated and they think that modern medicines are more efficient and more reliable than traditional ones [4]. [49] Studied knowledge, attitudes, and practices of parents in rural China on the use of antibiotics in children. Study among sample size of 743 parents. He found that perception parents increases the risk of self medication. This is similar to present study.

Study results also showed practice of self medication was associated with the use of self medication. Study investigated self medication practices among parents in Italy with a sample size of 672 parents founded similar findings with this study. He found that a total of 69.2% poorly practiced self-medication at least once. The odds of having performed a self-medication were higher in females and in younger population [16]. This study generally report that a poor practice of self medication has positive association with the use of self medication of parents. Thus, this is similar to present study. The study findings are of great value for an increased understanding of the prevalence and associated factors of self medication in somalia, despite some potential biases.

Limitations

The study was targeted caretakers in households with children under five years of age in Borama town. Although this study was localized in Borama and self medication is a major health problem in the entire country, it is not necessarily representative for Somaliland or Somalia as a whole despite study results are similar to those reported from other country studies. The study would have been better to be done in a large area or country level, but due to resource constraints, only Borama town was covered this could lower the generalizibility of the study, due to low coverage. Participation in this study was voluntary and the results may have been affected by selection bias. Study mainly relied on the recall of the caretakers who could have introduced a recall bias in the interviews. This was minimized by the use of drug pictorial charts and the physical inspection of any drugs/containers that were available at the time of study. We had a survivor bias since we only interviewed caretakers of children that lived and being a cross sectional study we could not explore causality to self medication.

Recommendations

This report has established that knowledge; perception and practice factors are significant determinant of self medication usage of caretakers among the households in under five children in Borama district. From the above findings, the researcher makes the following recommendations. First, finding that perception is a significant determinant of the self medication among the participants means that orientation, disposition and inclination of caretakers are important factors to consider in the management of self medication. The study recommends that Ministry of Health of Somaliland should mount and promote a health education and awareness programmes on perception modification at grassroots to help reduce

development of self medication related complications that may arise for positive perceptions. Such programmes should promote healthy living among the society and caretakers in households with under five children, and help reduce the advancement of self medication usages as well as raising the issue of awareness and further improve the perception of caretakers about self medications in order to build up new generations fighting unregulated self medication is very significant.

Further, the finding that knowledge and practice factors are a significant determinant of self medication usages among participants in Borama town imply that basic knowledge and standard practice medication have important roles in health among the community. The relationship could arise due to poor policy of self medication, cultural and social activities that caretakers of self medication usage engage in. There is need for Ministry of Health and other related government units to create awareness campaign on relationships between basic knowledge and standard practice of medication with particular focus on caretakers with self medication usages. Also enforcement of rules and regulations by which pharmacies shops, stores and whole sellers are guided and supposed to operate in regard to the selling of medications through frequent supervisory visits by the concerned authorities. Such campaigns should explain the relationship and the basic strategies to avoid their development self medication usages. Further, information which clearly stipulates the prescription only medications and over the counter medications should be available and let the public be aware of that.

Finally the study was specific to caretakers with use of self medication attending with households in under five children in Borama town. Further, time and other resource

constraints could not allow inclusion of all relevant variables. Therefore only prevalence and associated factors of knowledge, perception and practice of the caretakers and use of self medication were investigated. But, there are several other high determinants of self medication such socio-economic status, socio-demographic factors in Borama district. For example, socio-economic status is one of the determinants since the fact that 82.20% of caretakers used self medication in this study had income less than $300. The researcher recommends that a study be done to investigate the above determinants of self medication in Borama town. This could lead to new strategies for managing the self medication in Borama town and in Somaliland as whole.

CONCLUSION

The study results points to self-medication is an important health issue in this Somalia. Health education of the caretakers and regulation of pharmacies may help in limiting the self-medication practices. Study concludes that perception of caretakers is the major determinant of the use of self medication among participants with under five years of children in Borama town. This is because perception accounts for the largest variance of (33.1%) determinants of self medication usage among households with under the five years old children in Borama. This means that the self medication usage is largely due to orientation, disposition and inclination of caretakers amonghouseholds with under five years of children in Borama town.

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APPENDIX A

Sample Size Estimation

Using a sample size formula by Kish Leslie for cross-sectional studies:

$$N = \frac{Z^2 P(1-P)}{e^2}$$

Where:

N =Sample size estimate the population of caretakers who use self medication.

P= assumed true population prevalence of caretakers used self medication

$1 - P$ = the probability of not having self medication

Z = Standard normal deviate at 95% confidence interval corresponding to 1.96

e = Absolute error between the estimated and true population prevalence of MA of 5%.

Assume there is a large population but that we do not know the variability in the proportion that will adopt the practice self medication; therefore, assume P=0.5 (maximum variability 50%). Furthermore, suppose we desire a 95% confidence level and ±5% precision. The resulting sample size is demonstrated in Equation below.

$$N = \frac{1.96^2(0.5)(1-0.5)}{(0.05)^2} = 384 \text{ Caretakers}$$

APPENDIX B

Questionnaire for Self Medication Caretakers

Dear respondents

You may have been invited to take part a research study titled “knowledge, perception and practices of self medication among households in children under five years in Borama district, Somaliland”. The study being conducted by Yusuf A. Hareed, a trainer of Somali Swedish collaboration in Research for health program. Survey is only about 20 – 25 minutes to complete. It has been approved by regional director of health. There will no problem from prohibiting in the study. All responses provided by will be analyzed anonymously, and will not be forced to confirm to some predetermined opinions. Further, the researcher will treat all information provided with highest privacy and confidentiality and no information will be passed to a third party without your expressed permission from the respondents. While you may not be experience any direct benefits from participation, information collected in this study may benefit the caretakers of Borama and the whole nation in the future through developing better awareness for caretakers in Somaliland on the management of self medication usages.

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 (working/not working)
   None ☐Casual labour ☐ Formal employment ☐ Self -employed ☐

   Others☐(Specify) _

8. Your average family income per month in (USD)
   0 – 100 ☐101 – 200 ☐201 – 300 ☐301 – 400 ☐≥ 500 ☐

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☐ Couch and cold ☐ Acidity ☐ Nausea and vomiting ☐ Diarrhea

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

SECTION II: SELF MEDICATION

Answer the following questions/items by cheating (/) 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 drug shop/shop and buy drugs to give him/her?	☐	☐	☐	☐	☐
3	When the child falls sick at home, do you use remaining drugs from previous prescription to treat him/her?	☐	☐	☐	☐	☐
4	Sometimes, in the event of sickness, do you use previous prescription to buy new drugs 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 drugs at home before taking him/her to hospital?	☐	☐	☐	☐	☐

SECTION III: KNOWLEDGE OF SELF MEDICATION

Answer the following questions/items by cheating (/) 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 drugs requires basic knowledge about drug action	☐	☐	☐
2	When a child falls sick, it is always very necessary to take him/her to qualified medical personal.	☐	☐	☐
3	Non-prescription drugs can lead to some side effects (adverse affect) including even death	☐	☐	☐
4	Non-prescription drugs can lead to the body resistance	☐	☐	☐
5	Continuous use of Non-prescription drugs may cause dependency	☐	☐	☐
6	Non-prescription drugs, most of the time, end up complicating the sickness of the child	☐	☐	☐
7	The reading & understanding of leaflets in the drug pack is important before taking medicine	☐	☐	☐

SECTION IV: PERCEPTION OF SELF MEDICATION

Answers the following questions/items by cheating (/) 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 cheating (/) 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 are similar to previous sickness, than I can use nonprescription drugs	☐	☐	☐	☐	☐
5	I can always use nonprescription drugs 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 drug, 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 drug	☐	☐	☐	☐	☐
9	I seek professional advice soon after my child becomes sick	☐	☐	☐	☐	☐