

Enhancing Mother's Awareness, Attitude and Practice about Non-Prescribed Medications through Counseling

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Abstract: Non-prescribed medication is currently common all over the world and the situation is terrible in developing countries. The aim of this study was to enhance mothers' awareness, attitude and practice about non-prescribed medications. Design: A quasi- experimental Pre & post research design was used. Setting: this study was conducted at 2 maternal and child health centers Quabli and bahary in Shibin El-kom district at Menoufia Governorate, Egypt. Sample: a convenience sample of 80 mothers have children from 1 to 5 years who attend maternal and child health center. Instruments: - A structured interviewing questionnaire included socio-demographic characteristic of studied sample, reasons for using non-prescribed medications for the children, mothers' awareness, practice, attitude about non-prescribed medications for the children. Result: - Total Pre-intervention mothers' awareness about non-prescribed medication showed that 60% had poor awareness and 40% had good awareness while all of them 100% had a good awareness after intervention, total Pre-intervention mothers' practices about non-prescribed medications showed that 57.5% had risky practice and 42.5% had safe practice while 1.3% had risky practice and 98.7% had safe practice after intervention and total Pre-intervention mothers' attitude about non-prescribed medication showed that 92.5% had poor attitude and 7.5% had good attitude while 2.5% of them had poor attitude and 97.5% of them had good attitude after intervention about non-prescribed medication use. Conclusion: -Counseling intervention is an effective method to improve mothers' awareness, practice and attitude about non-prescribed medications. Recommendations: - Multi-educational program for the mother regarding non-prescribed medication through the well-distributed primary healthcare facilities.

Keywords: Non-prescribed medication- Awareness- Practice- Attitude- Counseling.

1. INTRODUCTION

Non-prescribed medication is undeniably a major global practice which influences individuals' behavior while taking decision concerning their health. The universal practice of non-prescribed medication drove the World Health Organization to recognize the phenomenon as a crucial part of public health care system (Kumar, Kanchan, Unnikrishnan, Rekha, Mithra, Kulkarni and et.al, 2013).

Non-prescribed medications are medications which are directly available to consumers without physician's prescription. Non-prescribed medications are most commonly used by the general public for illness like pain, cough and cold, fever, allergies, diarrhea, constipation etc. (FDA, 2012). And the common reported reasons for non-prescribed medications were shortages of medications at health facilities, long waiting time at health facilities, long distance to health facilities, inability to pay for health care charges and the freedom to choose the preferred medications that would cure their sick children. (Chipwaza, Chipwaza, Mugasa, Mayumana, Amuri, Makungu, and Gwakisa, 2014).

Non-prescribed medication is currently common all over the world and the situation is terrible in developing countries. The prevalence of non-prescribed medication in European countries, America, India, Malaysia, Saudi Arabia, Ghana, China, Brazil and Serbia has been reported as 68%, 77%, 88.18%, 80.9%, 75.2%, 70%, 40.2% 86.4% and 79.9%, respectively (Heydaratabar, Hatefnia and Kazem, 2016).

Study about "Self-Medication Problem in Egypt: A Review of Current and Future Perspective" conducted by Kasim and Hassan, (2018) showed that in Egypt medications can easily be obtained without prescription and this is represented a serious public health problem. The prevalence of non-prescribed medications use was progressively increased in Egypt during the last two decades. An earlier study on non-prescribed medications utilization among children in Alexandria in 1995 reported that 21.1% of purchased medications without prescription. One year later, the prevalence was 72% in a cross sectional study including 25 private pharmacies in Alexandria city. Much more recently, in a community-based survey in the same city, the prevalence of non-prescribed medication use was increased to be as high as 86.4%.

Parents who use non-prescribed medication for their children say they do so because the illness isn't serious enough to visit the physician. The children are strongly susceptible to the irrational use of medications with and without medical control due to poverty and insufficient knowledge of parents. Analgesic, antipyretic, anti-inflammatory medications followed by medications with action on the respiratory tract and systemic antibiotics are the common non-prescribed medication used for children. (Pfaffenbach, Tourinho and Bucaretschi, 2010).

Lack of proper medication knowledge and practice might eventually have serious impacts on the health. Thus, effective interventions are required to enhance knowledge, attitude and practice regarding safe non-prescribed medication use. Counseling is one of the suitable methods to impart this required knowledge. Effective counseling has been associated with better and positive outcomes in terms of knowledge, attitude and practice of the safe and effective utilization of medicines to enhance medication safety (You, Grobman, Davis, Curtis, Bailey and Wolf, 2011).

Nurses play a vital role in health promotion, including aiding clients to develop responsible, informed self-medication with non-prescribed medications and self-care competency, nurses are the main providers of primary health care including the use of prescription and non-prescription medications. It is important that nurses are knowledgeable about self-care with non-prescribed medication, understand their desired action, common adverse events, interactions with other medicines and the importance of seeking timely referrals (College of Registered Nurses of Nova Scotia, 2017).

1.1. Significant of the study:

People all over the world suffer common health problems (e.g. colds, headaches, digestive problems and muscle aches) in roughly the same frequency and respond in the same way to these problems. In 50% of the cases, they let the condition run its course or use a home treatment. In 25% of cases, they use non-prescribed medications and the remaining 25% of cases visit a physician or use a prescription medication previously obtained for the same condition. (WHO, 2015).

In Egypt, In Alexandria, a pharmaco-epidemiological study of self-medication among adults attending pharmacies reported that nearly 81% of medications were purchased without prescription (Sallam, 2009). Another study carried out among Ain Shams University medical students in Cairo, Egypt, showed that the prevalence of non-prescribed medications among the studied population was 55% (El Ezz, 2011).

The Central Agency for Public Mobilization and Statistics (CAPMAS, 2016) in Egypt has declared that the number of children currently enrolled in kindergarten reached 27.7 percent for boys and 27.6 percent for girls aged between four to five years old. The highest number of children was between 5 to 9 years old, representing 28.7 percent of children; while, the lowest number on record was for those below one year of age, representing six percent of children.

lack of adequate knowledge of the medication dosage and frequency of intake can potentially lead to adverse effects from the medication. There is also a possibility of not obtaining the appropriate medication for the condition, leading to a delay in the diagnosis and treatment of the condition, growing resistance to some medications, medication dependency due to uncontrolled use of non-prescribed medications, signs and symptoms of underlying diseases are suppressed hence incidence of delayed diagnosis, complications and treatment failure (Sontakke, 2011).

1.2. Aim of the study:

The present study aims to enhance mothers' awareness, attitude and practice about non-prescribed medication through counseling.

1.3. Hypotheses:

- Mothers who will receive counseling about non-prescribed medications will have higher level of awareness on post-test than on pretest.
- Mothers who will receive counseling about non-prescribed medications will have better practice on post-test than on pretest.
- Mothers who will receive counseling about non-prescribed medications will have more positive attitude toward non-prescription medications on post-test than on pretest.

2. SUBJECTS AND METHODS

2.1. Research design:

A quasi-experimental (Pre & post) research design was used to achieve the aim of the study.

2.2. Research setting:

Multistage random selection technique was used to select study setting according to the following steps: - the first stage was a random selection of one district from nine districts of Menoufia Governorate. The selected district was Shebin El-kom district. The second stage was random selection of two maternal and child health centers from 250 MCH and health units from Shibin El-kom district. The selected MCH centers named Quabli and Bahary in which sample was taken.

2.3. Sample:

A convenience sample of 80 mothers who have children from 1 to 5 years who attend maternal and child health center (Quabli and Bahary) in shebin El-kom district, Menoufia Governorate, Egypt according to the following criteria

Inclusion criteria:

- Mothers with children from 1 year to 5 years.

Exclusion criteria:

- Children with life threatening medical condition as thalassemia, chronic diseases, hemophilia, and etc...these condition require medical attention and mothers aware of severity of these condition.

2.4. Study Instruments:

The data of the study were collected using a structured interview questionnaire. This questionnaire was developed by researchers based on pertinent literature to determine effect of counseling on mothers' awareness, attitude and practice about non-prescribed medication. This questionnaire consists of five parts:

First part: This part was concerned with the socio-demographic characteristic of mothers and included 8 questions such as age, educational level, age of marriage, duration of marriage, numbers of children, occupation of mother, income and residence.

Second part: This part was concerned with the reasons for using non-prescribed medications for the children that consisted of 11 multiple choice questions that included questions as: previous use of non-prescribed medications for the children, reasons for using non-prescribed medications for the children, sources to get information about non-prescribed medication, most commonly used non-prescribed medications, common conditions to use non-prescribed medications for children, frequency of using non-prescribed medications, child's symptoms improved after using non-prescribed medications, repetition of symptoms after using non-prescribed medications, mother's action regarding acute attack of disease for the child and side effects result from using non-prescribed medications.

Third part: This part concerned with mothers' awareness (knowledge) about non-prescribed medications for the children including 9 questions scored as(1) for know and (0) for don't know about mothers' awareness about right dosage, right time, right duration, dosage frequency, some medication, foods and beverage should be avoided when using non-prescribed medications, side effects result from using non-prescribed medication, storage of non-prescribed medications and non-prescribed medications may lose their effectiveness after chronic use. The total score of mother's awareness was 9 categorized into two level ranged from (0-4) had poor awareness and from (5-9) had good awareness.

Fourth part: This part concerned with mothers' reported practice about non-prescribed medication for children. This part classified into two sub parts concerned with: -

A-Mothers' reported negative practice regarding non-prescribed medications for children including four questions such as (buy non-prescribed medications without physician's consultation, take into consideration opinions and recommendations from my family and friends when using non-prescribed medications, buy the same non-prescribed medication when symptoms repeated again and buying non-prescribed medication as the first choice when treating minor illness for my child) measured with numerical rating Likert scale ranging from 1 for (always), 2 for (sometimes) and 3 for (never) this part has maximum score of 12 and minimum score of 4. Low score indicates that mothers had negative practice about non-prescribed medication. Total score of mother's reported negative practice categorized into two level ranged from (4-8) had risky negative practice and from (9-12) had safe negative practice.

B- Mother's reported positive practice about non-prescribed medications for children including 8 questions such as (before purchasing non-prescribed medications, told pharmacist about child's symptoms, before purchasing non-prescribed medications, told pharmacist about medical history and age of the child, non- prescribed medication is safe but I would seek a physician advice before using it, take into consideration opinions and recommendations from the pharmaceutical staff when I choose non-prescribed medications, when using any non-prescribed medications, try to find out whether they are safe or not, I am following pamphlet's instructions provided regarding proper use of non-prescribed medications for my child, check expired date of non-prescribed medication before giving it to my child and search on the Internet to learn more about non-prescribed medications) are measured with numerical rating Likert scale from 1 for (never), 2 for (sometimes) and 3 for (always) this part has maximum score of 24 and minimum score of 8. High score indicates mothers had positive practice about non-prescribed medications. Total score of mother's reported positive practice categorized into two level ranged from (8-12) had risky positive practice and from (13- 24) had safe positive practice.

Total score of mothers' reported practice about non-prescribed medication categorized into two level ranged from (12-24) had risky practice and from (25- 36) had safe practice

Fifth part: This part concerned with mothers' reported attitude about non-prescribed medications for children. This part classified into two sub parts concerned with: -

A-Mothers' reported negative attitude toward non-prescribed medications for children including five questions such as (non-prescribed medications are effective, non-prescribed medications are reasonably priced than physician consultation, I'm confident that I can purchase suitable non-prescribed medication for my child's condition, use medications that used before for family member if my child presents the same symptoms and change physician's prescription if the child still ill to non-prescribed medications are measured with numerical rating Likert scale ranging from 1 for (agree), 2 for (sometime) and 3 for (dis agree) this part has maximum score of 15 and minimum score of 5. Low score indicates mothers had negative attitude about non-prescribed medication. Total score of mother's reported negative attitude categorized into two level ranged from (5-10) had poor negative attitude and from (11-15) had good negative attitude.

B- Mothers' reported positive attitude about non-prescribed medications for children including seven questions such as (non-prescribed medications aren't safe to use, before using non-prescribed medications I ask pharmacist about complications and safety of them, notify physician or the pharmacist immediately about any side effect result from using non-prescribed medications, read carefully medication's leaflets before using non-prescribed medications, ensuring safety of non-prescribed medications can help to prevent unwanted risks and non-prescribed medications are not as powerful as the same type of medications available with prescription) are measured with numerical rating Likert scale ranging from 3 for (agree), 2 for (sometime) and 1 for (dis agree) this part has maximum score of 21 and minimum score of 7. High

score indicates mothers had positive reported attitude regarding non-prescribed medication. Total score of mother's reported positive attitude categorized into two level ranged from (7-14) had poor positive attitude and from (15-21) had good positive attitude.

Total score of mothers' reported attitude about non-prescribed medication use categorized into two level ranged from (12-24) had poor attitude and from (25-36) had good attitude.

2.5 Validity and Reliability of data collection instrument: -

The data collection instrument was revised for content validity by a jury of five experts in family and community health nursing and medical surgical health nursing and their recommended modifications were carried out. Reliability of tool was done to determine the extent to which items in the questionnaire were related to each other by test-retest for internal consistency by administering the same tool to the same participant after two weeks and compare results reliability $r = (0,806/80,6\%)$. Based on test- retest questionnaire of the study was reliable for data collection.

2.6 Pilot study: -

Before starting data collection, a pilot study was carried out on 10% of the mothers (8 mothers) that meet the criteria of the study to assess clarity, applicability, feasibility of the study and time needed to fill the tool. The needed modifications were done as revealed from pilot study. The subjects of pilot study were excluded from the total study subjects.

2.7 Ethical considerations:

- Approval of Ethical Research Committee obtained from faculty of nursing at Menoufia University.
- Oral informed consent was obtained from each participant of the study. The subjects who agreed to participate in the study were assured about confidentiality and anonymity of the study. They were informed about their right to withdraw from the study at any time without giving a reason. The purpose of the study was clarified for the participants by the researcher and any needed clarifications were done.

2.8. Data collection procedure:

- Data collection for this study was extended from 8 August to 10 September 2018 in pre phase and from 8 October to 30 October.
- Mothers who gave the vaccination to their children and have children from the age of one to five years and use non-prescribed medications were included.
- An interview was done with the mothers to explain the purpose of the study.
- Base line assessment through checklist was carried out and take from all participated mothers by the researcher before nursing intervention to identify mother's needs.
- Participants in the study received nursing intervention for medications safety and how to avoid non-prescription medications.
- The intervention will include instructions for the mothers about how to make medications safe and effective for their children.
- Researcher interviewed the mothers included in the study individually and within groups include (4-5 mothers) according to counseling process.
- Participants in the study was guided through counseling process that includes five phases.
- The first phase (establishing relationship) includes establishing structure and form of relationship with the mothers, laying foundation of trust, introducing self, explain the purpose of the study and take informed consent from participant.

- The second phase (assessment) includes making assessment of the mother's awareness, practice and attitude about non-prescribed medications use before intervention, gathering and analyzing data obtained from assessment to identify mother's needs.
- The third phase include (setting goals) set goals according mother's needs to change unwanted perception, practice and attitude about non-prescribed medications use.
- The fourth phase (intervention) include nursing action applied to achieve goals include instructions about how to maintain medications safe and effective for their children and how to avoid non-prescribed medications.
- The fifth phase (termination) includes assess mothers change regarding non-prescription medication use and accomplishment of goals and effectiveness of intervention through post intervention data.
- Duration of all phase was taken from 15-30 minutes.
- A copy of booklet illustrating how to use medications correctly and effectively for their children was given to the mothers.
- The booklet items were explained to the mothers.
- The researcher used lecture, videos and group discussion.
- After the base line assessment and intervention, the researcher collects post intervention data from all mothers included in the study.
- Post intervention evaluation was conducted after two months from baseline assessment.

Statistical analysis: -

The collected data were entered, statistically analyzed and tabulated using SPSS software (Statistical Package for the Social Science, version 22.0). For quantitative data, mean, range and standard deviation were calculated. For qualitative data, comparison between two group and more was done using Chi-square test. Multi variate Regression Analysis was performed to estimate Odd ratio(OR) 95% confidence interval (CI) and for each of independent variable. Statistical significance was considered at p-value ≥ 0.05 .

3. RESULTS

Table (1) demonstrated sociodemographic characteristic of studied mothers. As demonstrated the mean age of studied mothers was 29.3 ± 4.1 years. More than one third of them (41.2%) had technical diploma, more than one third of them (42.4%) married under the age of twenty years and more than one third of them (43.8%) married from 6 to 10 years. More than half of them (57.4%) have two children. Most of them (90%) were housewives, most of them (93.7%) mentioned that their income was enough and two third of them (70%) live in urban area.

Figure (1): clarified effect of nursing counseling about non-prescribed medication on mothers' mean total awareness score.

As clarified pre intervention mothers' mean of total awareness score was 3.4 while post intervention mothers' mean of total awareness score was 7.7.

Figure (2): clarified effect of nursing counseling about non-prescribed medication on mothers' mean total practice score. As clarified pre intervention mothers' mean of total practice score was 24.4 while post intervention mothers' mean of total practice score was 30.

Figure (3): presented effect of nursing counseling about non-prescribed medication on mothers' total attitude score. As presented most of studied mothers (92.5%) had poor attitude before intervention while (2.5%) of them had poor attitude after intervention and (7.5%) of them had good attitude before intervention while most of them (97.5%) had good attitude after intervention.

Table (1): Distribution of socio-demographic characteristics of the studied mothers (N= 80).

Socio demographic characteristics	N0.	%
Age (Years)		
20 – 30 years	56	70
31 – 40 years	24	30
Mean ± SD	29.3 ± 4.1 years	
Educational Level		
Illit. & R&W.	9	11.3
Basic education	9	11.3
Secondary school or technical diploma	33	41.2
University	29	36.2
Age of marriage		
≤ 20 years	34	42.4
21 – 25 years	31	38.8
26 – 36 years	15	18.8
Duration of marriage:		
<= 5 years	30	37.4
6 – 10 years	35	43.8
11 – 18 years	15	18.8
Number of children:		
Two	46	57.4
Three	27	33.8
Four	7	8.8
Occupation of mother		
Housewife	72	90
Work	8	10
Income		
Enough and increasing	4	5
Enough	75	93.7
Not enough	1	1.3
Residence:		
Urban	56	70
Rural	24	30
Total	80	100

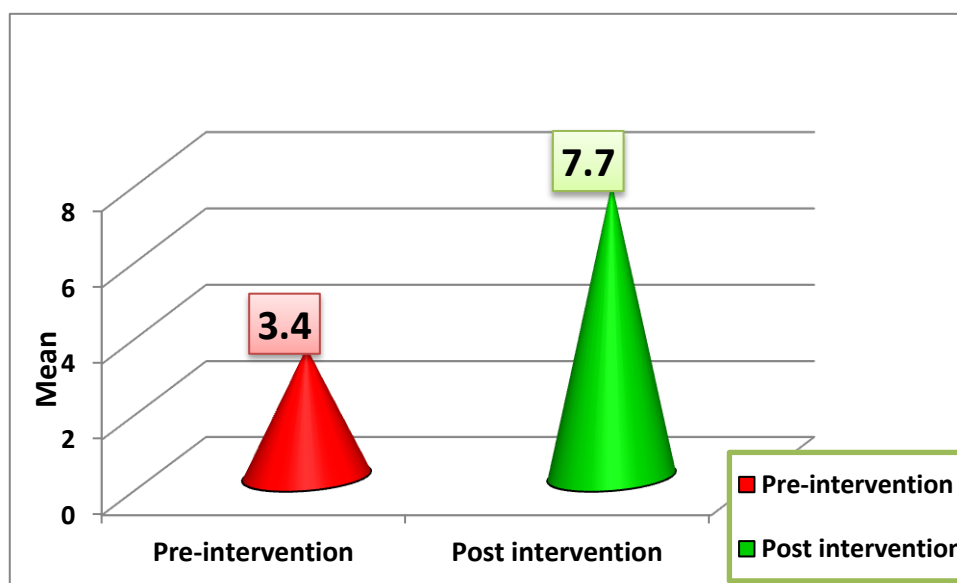


Fig 1: Effect of nursing counseling about non–prescribed medication on mothers' mean total awareness (N=80)

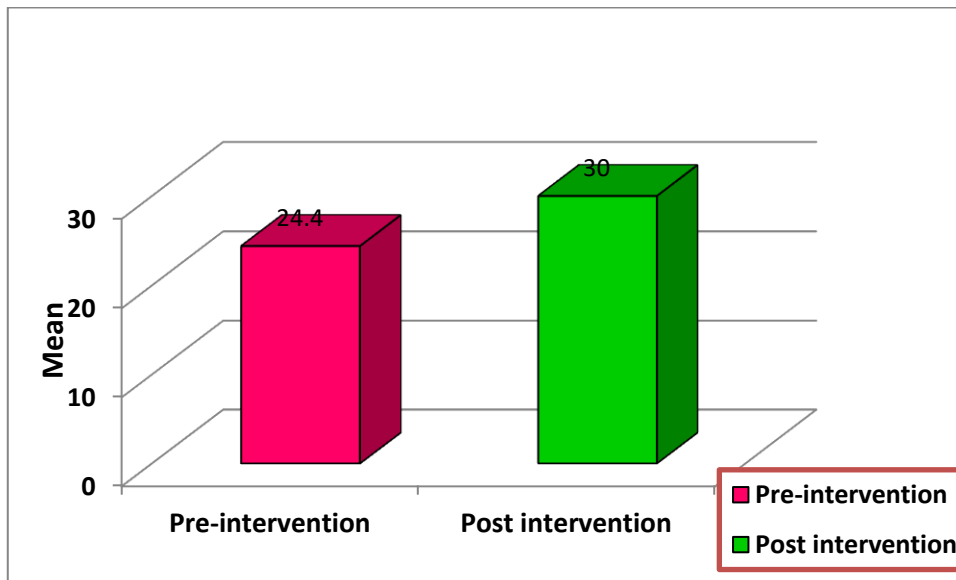


Fig 2: Effect of nursing counseling about non-prescribed medication on mothers' mean total practice score (N=80).

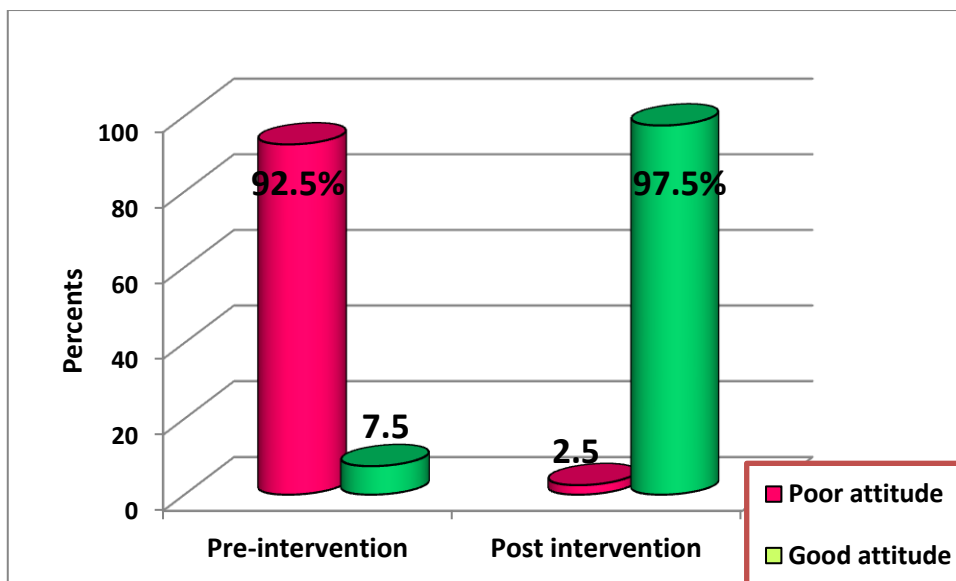


Fig 3: Effect of nursing counseling about non-prescribed medication on mothers total attitude groups (N= 80).

4. DISCUSSION

Non-prescribed medication is defined as the use of medication without consulting physician regarding indication, dose and duration of treatment. Non-prescribed medication represents an aspect of self-care behavior. Lack of proper medication knowledge and practice might eventually have serious impacts on the health (World self-medication industry, 2015).

Regarding sociodemographic characteristic of the participants, the present study revealed that, the age of studied mothers ranged from 20-40 years old with a mean of 29.3 ± 4.1 years, more than half of them had two children and more than one third of them had Secondary school or technical diploma. This finding is supported by Salami and Adesanwo, (2015) who studied "the practice of self-medication for treatment of illnesses for under-five children by mothers in Ibadan, Nigeria" revealed that the age of the participants ranged from 18-46 years old with a mean of 30, about one third of them had two children and more than one third of them had secondary school education as highest educational level attained.

Regarding income, occupation and residence of the studied sample the study revealed that most of them had enough income and were housewives also two third of them lived in urban area. This result is supported by Khalaf, Aly, and Ahmed (2018) who studied "Prevalence and Attitude Regarding Non Prescribed Medications among Pregnant Women Attending Maternal and Child Health Care Centers in Assiut City" cleared that more than two third of subjects were housewives and more than half of them from urban areas and more than two third of them had enough income.

The result of the current study revealed that more than half of studied mothers had poor awareness and more than one third of them had good awareness about non- prescribed medications with a mean of total awareness score was 3.45 ± 1.1 before counseling while all of them had good awareness about non-prescribed medications with a mean of total awareness score was 7.7 ± 1.3 after counseling and there was high statistical significant relation between counseling and mothers' awareness as p value= 0,000. This result was consistent with Devkota et. al (2017). They reported that mean of total awareness score was 8.8 ± 3.6 before counseling while mean of total awareness score was 12.86 ± 1.27 after counseling as P value = <0.001

Regarding effect of nursing counseling about non-prescribed medications on mother's total practice group. The present study revealed that mean of total practice group before counseling was 24.4 ± 2.6 while mean of mothers' total practice group after counseling was 30.0 ± 2.0 and there was high statistical significant relation between counseling and mothers' total practice as P value=0.000. This finding was supported by Devkota et. al (2017). They reported that mean of total practice score was 11.8 ± 2.6 before counseling while mean of total practice score was 15.96 ± 2.05 after counseling. As P value <0.001.

Pertaining to effect of nursing counseling about non-prescribed medications on mothers' total attitude score. As illustrated most of studied mothers had poor attitude, (2.5%) of them had good attitude with a mean of mothers' total attitude score was 22.0 ± 1.8 before intervention while more than two third of studied mothers had good attitude, less than one third of them had poor attitude and mean of mothers' total attitude score was 27.7 ± 1.7 after intervention. This finding came in agreement with Suet, Tenney, Chu, Chu and Young (2018). They reported that more than two third of patients had low medication adherence before counseling while only less than one third of them had high medication adherence. After receiving discharge counseling, medication adherence improved in the intervention group. The percentage of patients with high medication adherence significantly increased by over 30% while patients with low adherence significantly decreased by over 60%.

5. CONCLUSION

- In the light of the current study findings, it can be concluded that non-prescribed medication is a relatively frequent problem in our community which could result in an increase in medication induced disease and in wasteful public expenditure.
- Implementation of counseling intervention had led to improve mother's awareness, practice and attitude about non-prescribed medications
- There was high statistical significant improvement in the mean scores of mothers' total awareness, practice and attitude about non-prescribed medications after intervention compared with pre intervention scores.

6. RECOMMENDATIONS

- 1- Multi-educational program for the mother regarding non-prescribed medication by describing the total impact of non-prescribed medications on the children according through the well-distributed primary healthcare facilities.
- 2- Community- based health education programs must be organized to health care professionals, especially nurses and pharmacists about non-prescribed medication offering opportunities for them to learn how to handle it in the working settings as they are the most health care professionals who contact with medication's consumers.
- 3- Advertisement of medications should include discouragement of practice of non-prescribed medications. through serious policy attention over medication advertisement.
- 4- Ongoing programs to collect data on non-prescribed medication consumption by consumers and practices of pharmacists dispensing medications without prescription should be implemented.
- 5-Further studies regarding non-prescribed medication in children are still needed with large sample.

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