

Perception towards Appropriate Use and Adverse Effects of Paracetamol among the Residents of Al Ahsa

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Abstract: In episodes of most of the illnesses, self-medication is the first option, which makes self-medication a common practice throughout the world. Among the self-medicated drugs, Paracetamol is considered to be a well established and widely used drug as a leading non-prescription antipyretic and analgesic. It is also considered as one of the most frequently used drugs in intentional overdoses. **Objectives:** The purpose of the present study was to assess the perception towards the appropriate use of Paracetamol among the residents of Al Ahsa city of Saudi Arabia. **METHODS:** The study is a cross sectional survey conducted from the community of Al Ahsa during September 2015 through the self-administered questionnaire developed by Delphi technique. The questionnaire translated into Arabic. Data was then entered in SPSS version 20.0 for analysis and chi-square test was applied for the analysis. P-value <0.05 was considered as significant. **RESULTS:** The results depicted that mean age of the population was 25.9 years (± 0.98 SD) and there were 480 male (46%) and 557 female (54%). The overall awareness among community was very low. The educational level, age, marital status and gender do not show any association (>0.05) towards most of the questions. However, the awareness had shown significant association (<0.05) with educational level only. **CONCLUSION:** The overall awareness for appropriate use and adverse effect of paracetamol was low among the participants; therefore, the community needs awareness campaign to reducing adverse effect.

Keywords: paracetamol – Perception – public Health.

I. INTRODUCTION

Self-medication is defined as the use of drugs to treat self-diagnosed illness or symptoms, or the irregular or continuous use of a prescribed drug for chronic or recurrent disease or symptoms (1). In the episodes of most common illnesses like fever or headache, self-medication is considered as first option (2) which makes self-medication as a prevalent application worldwide (3). Among the self medicated drugs, Paracetamol is considered to be a well established and widely used drug as a leading non-prescription antipyretic analgesic (4). It is also considered as one of the most frequently used drugs in intentional overdoses (5). It is further found in many over the counter (OTC) and prescription products. If the drug is given in the right dosage it does not cause many side effects; however continuous use may result in renal injury and increased overdose may produce liver injury (6). In 1978-88, Paracetamol abuse was considered to increased 5- folds, and had worsened to more than 200g/person/year in the US (7). The rate at which paracetamol was bought without any prescription was increased to 3500 million, 500 mg tablets in the year 2000 in United Kingdom (8).

Paracetamol is a weak inhibitor of the synthesis of prostaglandins. The in vivo effects of the drug are similar to those of selective cyclooxygenase –2 inhibitors (9). According to Food and Drug Administration US (FDA), the average adult should not exceed 4g of acetaminophen a day (10).

Since paracetamol has been widely available OTC, the perception on the effects of overdose of paracetamol has altered among the people. In 1976, patients were not aware that there was a delay of several days before the onset of serious symptoms, and Gazzard et al. suggested that if they had known the side effects, they might not have used it (11). An other study conducted in the early 1990s found that most patients found that paracetamol could cause death, however, mostly people were unaware of the delay in onset of severe symptoms and also considered that overdose results in unconsciousness (11).

These days, when the drug is quite easily available and approachable, the most convenient way to mistakenly overdose on paracetamol is to combine different cough and cold medications because people are still unaware that paracetamol is contained in most of them (10).

The purpose of the present study was to assess the perception towards the use of Paracetamol among the residents of Al Ahsa city of Saudi Arabia. It is hypothesised that the study may pour the light on the subject with a view to encouraging rational use of this common pharmaceutical agent among the residents.

2. METHODS

The study was a cross sectional survey conducted from September to October 2015 among the residents of Al Ahsa. A self- structured questionnaire was developed through Delphi technique and was distributed in the community. The questionnaire was translated into the local language - Arabic for better understanding. Initial part included the questions regarding demographics e.g. age, gender, socioeconomic status and the second part consist of the questions regarding awareness, side effects, indication and contraindications of the drug. All the data was conducted online through SurveyMonkey. Data was then entered in SPSS version 20.0 for analysis and chi-square test was applied. *P*-value of < 0.05 was considered to be significant.

3. RESULTS

Results showed that a total of 1037 participants contributed in this survey, of which 54% were females and 46% were males. Majority of the participants belonged to young age group (18 – 25) i.e. 43% followed by 29% who belonged to the age group of 26 – 35 years. The highest level of education was marked by majority of the participants i.e. 67% followed by 28% who finished their secondary education (Table 1).

Table 1: DEMOGRAPHICS

		N (%)
Age	18-25	445 (43)
	26-35	305 (29)
	36-45	197 (19)
	Above 45	88 (8.5)
Gender	Male	480 (46)
	Female	557 (54)
Education level	Illiterate	5 (0.5)
	Can read and write	5 (0.5)
	Primary school	17 (1.6)
	Intermediate school	24 (2.3)
	Secondary school	294 (28)
	Higher education	692 (67)

Regarding awareness towards appropriate use of paracetamol, the results showed that majority of the participants (85%) were aware of the fact that long-term use of paracetamol will result in serious side effects. The score further revealed that awareness was significant with the level of education. As the level of education increases, the awareness towards indication, contraindication and side effects of the drug increases (Table .2). However, awareness was not found to be significant with gender, age, marital status or socioeconomic status.

Table 2: Chi-square test

	Chi - Square value	P-value
Awareness * Educational level	5.7	0.341 >0.05
Awareness * Gender	0.87	0.352 >0.05
Awareness * Marital status	11.74	0.019 <0.05 significant in favor of married
Awareness * Age	11.99	0.007<0.05 significant in favor of 26-35 years

4. DISCUSSION

Self-medication with over the counter medicines has long been a feature of the lay health system. With the reclassification of certain drugs, the public can buy preparations that were previously available only on prescription. Although all non-prescription medicines are required to hold a product license, few have been evaluated in formal clinical trials in the setting in which they will be used. As a result, many non-prescription products sold by pharmacists have been criticised for their lack of effectiveness. Yet consumers continue to demand them and claim their worth. Our study has shown that the gender or level of education has no effect on the awareness regarding the use, misuse, side effects of drugs; however, the drug is commonly used in the community. Ahmed S Eldalo conducted study in Taif, Saudi Arabia and he found that the parents self-medicate their children in that region and most common self-medication was found to be paracetamol followed by antibiotics. He further clarified that the main reason for self-medication was expensive consultation and long waiting time in clinics and hospitals (12). Similar results were extracted by Nehan, S et al in his study conducted in Pakistan in 2014 among medical and non-medical students. Their study showed that prevalence of self-medication was very high among the youth of the Pakistan due to its easy availability over the counter. Interestingly, they found that participants got more attention towards this drug due to constant advertisement by media such as TV and the males were more prone to the self-medication (13). Sohair E Ali et al in 2010 in Malaysia found in their study that there was higher rate of self-medication among the female students (14). Furthermore, these students were found to have very less knowledge on the use and misuse of the drugs. Analgesics have also been found as one of the commonly used drug groups among Iranian students in Qom city (15). Studies further show that in Egypt (87.3%) and Bahrain (81.3%) the rate of consumption of Paracetamol is quite high among over the counter drugs (16).

5. CONCLUSION

The overall awareness for appropriate use and adverse effect of paracetamol was low among the participants; therefore, the community needs awareness campaign to reducing adverse effect.

REFERENCES

- [1] Awad, Abdelmoneim, et al. "Self-medication with antibiotics and antimalarials in the community of Khartoum State, Sudan." *J Pharm Sci* 8.2 (2005): 326-331.
- [2] Geissler, P. Wentzel, et al. "Children and medicines: self-treatment of common illnesses among Luo schoolchildren in western Kenya." *Social science & medicine* 50.12 (2000): 1771-1783.
- [3] Angeles-Chimal, P., M. L. Medina-Flores, and J. F. Molina-Rodriguez. "[Self-medication in a urban population of Cuernavaca, Morelos]." *Salud publica de Mexico* 34.5 (1991): 554-561.
- [4] Maison, P., et al. "Trends in aspirin, paracetamol and non-steroidal anti-inflammatory drug use in children between 1981 and 1992 in France." *European journal of clinical pharmacology* 54.8 (1998): 659-664.
- [5] Gunnell, David, Virginia Murray, and Keith Hawton. "Use of paracetamol (acetaminophen) for suicide and nonfatal poisoning: worldwide patterns of use and misuse." *Suicide and life-threatening behavior* 30.4 (2000): 313-326.

- [6] Barry HR: Chemical and drug poisoning. In Nelson textbook of pediatrics. 18th edition. Edited by Nelson WE, Behrmanv RE, Kliegman RM, Arvin AM. W.B. Saunders Company, Philadelphia; 2010:2013.
- [7] Per L, Salvi H, Tanja H: Childhood illnesses and the use of paracetamol: a qualitative study of parents' management of common childhood illnesses. *Fam Pract* 2012, 20:717-723.
- [8] Eran K, Revital G, Deene RZ, Matitiah B: Repeated Supratherapeutic Dose of Paracetamol in children: A literature Review and suggested clinical approach.
- [9] Graham GG, Scott KF: Mechanism of action of paracetamol. *Am J Ther* 2005, 12:46-55 Park A: The FDA's painkiller warning: how to avoid taking too much. *Time*. Available at: <http://www.time.com/time/health/article/0,8599,1572012,00.html> website December 20, 2006; Accessed 26th October, 2015
- [10] Sheen CL, Dillon JF, Batemen DN, Simpson KJ, Macdonald TM: Paracetamol toxicity: epidemiology, prevention and costs to the health-care system. *QJM* 2002, 95:609-19.
- [11] Eldalo AS. Saudi parent's attitude and practice about self-medicating their children. *Archives of Pharmacy Practice*. 2013 Apr 1;4(2):57.
- [12] Syed N, Naseer M, Memon MQ, Rani K. Prevalence of Self-Medication and its Practice among the Medical and Non-Medical Students. *JLUMHS*. 2014 May;13(02):79.
- [13] Ali SE, Ibrahim MI, Palaian S. Medication storage and self-medication behavior amongst female students in Malaysia. *Pharmacy Practice (Internet)*. 2010 Dec;8:226-32.
- [14] Sarahroodi S, Maleki-Jamshid A, Sawalha AF, Mikaili P, Safaeian L. Pattern of self-medication with analgesics among Iranian University students in central Iran. *Journal of family & community medicine*. 2012 May;19(2):125.
- [15] El Ezz, N. F., and H. S. Ez-Elarab. "Knowledge, attitude and practice of medical students towards self-medication at Ain Shams University, Egypt." *Journal of preventive medicine and hygiene* 52.4 (2015).