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ORIGINAL ARTICLE

Public attitude and justification to purchase antibiotics in the Eastern region Al Ahsa of Saudi Arabia

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Abstract Use of non-prescription antibiotics can portend danger and predispose the populace to changes in bacterial resistance pattern. The aims of this study were to (a) evaluate the knowledge and attitudes of residents of Al-Ahsa community, Saudi Arabia on the use of non-prescribed antibiotics. (b) To identify possible predictors (if any) for self-medication within the community.

A cross-sectional survey study, using self-administered questionnaire was conducted in two sections; demographics and self-medication attitude (in form of self-antibiotic use). Questions contained the following outcomes; for demographics; gender, age, education level and common disease within the community. Whereas the second part evaluated sources of information, knowledge of antibiotics, frequency/duration of use, underlined illness in which drug use was employed, names of antibiotics used and awareness of adverse effects of antibiotics. Results revealed that the adult population in the 18–40 year age range constituted about 82.5% of the respondents. Also 18–29 age group made of 60.5% of the respondents and that 56.8% the respondents are university graduates. Cold (18.8%) and sore throat (13.0%) were the diseases commonly found among the community that drove them to using non-prescribed antibiotics. About 337 (72.8%) of the respondent mention the use of antibiotics to treat the illness, and 21 (4.5%) were aiming to prevent the illness. While, 19.4% of the respondents admitted to taking non-prescribed antibiotics for both prevention and treatment of illness. 43.6% of the respondents disclosed that they are not aware of the dangers of using non-prescribed antibiotics. In conclusion the use of non-prescribed antibiotics in this community is evident, as a significant number use them from previous experience for prevention

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and treatment of illness. Therefore introduction of rational use of drugs will help in limiting the attendant development of bacterial resistance.

1. Introduction

Proper use of antibiotics is critical to guarantee treatment effectiveness and to reduce the chances of resistance. However, irrational use may result in a variety of non-desirable events, and increase the chances of resistance, which can lead to high treatment cost with limited benefits (Calva, 1996; ER, 1997; Lansang et al., 1990; Okeke et al., 1999; Radyowijati and Haak, 2003). One of the main challenges that has emerged over the decades is the non-prescription use of antibiotics (Lansang et al., 1990). This is perhaps the main reason for reduced effect of antibiotics to different types of bacterial infections (Emeka, Al-Omar, & Khan, 2012; Howard et al., 2003). The non-prescription use of antibiotics is often directly associated with the easy access to antibiotics, which creates the opportunity for the consumer to bypass the expert opinion and self-medicate themselves based on their past experience or peer recommendations (Calva, 1996; ER, 1997; Lansang et al., 1990; Oyetunde et al., 2010). Consequences of self-medication have been known to be associated with poor prognosis and safety issues. Adding to this problem is the use of antibiotics through non-prescription purchase, thereby endangering the populace because of a consequent development of bacterial resistance (Byarugaba, 2004; Hart and Kariuki, 1998).

One most important issue in context of self-medication is perhaps the consumers' knowledge toward the antibiotic (Kandakai et al., 1996). Certain projects exploring the public knowledge toward antibiotic use report poor understanding of the public about the antibiotic, and conditions in which antibiotics can be used (Arul Prakasam et al., 2011; Curry et al., 2006). Furthermore, this poor knowledge has not only affected the public understanding for antibiotics, but also developed their own understanding to treat common respiratory tract infections with antibiotics (Chan and Tang, 2006; Curry et al., 2006; Eng et al., 2003). Developed countries have identified this issue earlier and have planned interventions by correcting the misconception with evidence base information (Huttner et al., 2010; McNulty et al., 2007).

However, in developing nations the scenario is perhaps different. Particularly addressing the issue of self-medication in Gulf region, the belief of the inhabitants, knowledge and behavior pertaining to the use of antibiotics need to be documented due to increasing level of resistance. Some of the previous study in Gulf region has expressed serious knowledge deficits about antibiotics among the Arab population (Tenaiji et al., 2008). Ministry of health Saudi Arabia has an approved law since 1978 that forbid pharmacist to dispense without prescription (Bawazir, 1992). However, in these communities regulation and public medication safety is at the back seat for the moment (Emeka et al., 2012; Khan and Ibrahim, 2013). Thus it appears that people buy what they want without being educated about the consequences. This freedom to antibiotic access might put the community at a high risk of potential adverse events that can be associated with a self-directed use of these drugs. In this regard it is very pertinent to address the factors that drive the behavior to use antibiotics without prescription and how they came to decide that the drug they are choosing best fit their need. The current study is aimed at evaluating public attitude and behavior toward the use of non-prescribed antibiotic in Al Ahsa Eastern Province, Saudi Arabia and to identify possible predictors (if any) for self-medication within the community under study.

2. Methodology

A cross sectional study was conducted in the Al Ahsa Eastern Province, an oil producing region of Saudi Arabia, situated near to the border of neighboring gulf countries like Bahrain, Qatar and United Arab Emirates.

2.1. Sample size

In considering the number of suburbs within this area, four main clusters were identified namely Hofuf, Mubaraz, Mahasen, and Hassa Villages that best reflect the Al Ahsa population. Using the online sample size calculator i.e. RaoSoft®, minimum effective sample 377 was calculated at the confidence interval of 95% (RaoSoft, 2013). The minimum effective sample was calculated just to ensure a minimum number, if approached that justify the findings of the study. In addition, the following inclusion and exclusion criteria were adopted to ensure that the respondent interviewed, best represent the Al Ahsa population.

2.1.1. Inclusion criteria

- Respondents aged eighteen or more were invited for their participation
- The respondent should be an Al Ahsa resident.
- Must be a resident of that area for at least one year.

2.1.2. Exclusion criteria

- Age less than eighteen years.
- Visitors from other regions were excluded.
- Respondents with hearing and speaking disabilities were excluded.
- Respondents with any abnormal behavior or psychiatry complication were also excluded.

2.2. Questionnaire distribution and data collection

A cross-sectional study was designed with semi-structured interview guide that was developed using self-administered questionnaires. The respondents were males and females from