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The level of awareness regarding bronchial asthma among Riyadh population

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ABSTRACT

Background: bronchial asthma is a long-standing disease which results from airway inflammation and hyper responsiveness. *Methodology:* this is a cross-sectional study which was conducted in Riyadh, Saudi Arabia. It included 175 participants, using a convenient sampling technique. A Self-administered, pre-coded, and pre-tested questionnaire was used. The collected data was reviewed and statistically analyzed by using SPSS version 23 and P=Value of 0.05 or less is considered significant. *Results:* 66.3% of participants were females, and majority of the participants were in the age group of 18-30. 58.3% of participants had a moderate level of awareness regarding bronchial asthma. It also showed that 46.3% had moderate levels and 44.6% had high-level regarding triggering factors. 60% and 54.3% had high levels regarding complications and symptoms respectively. Only 21.7% of respondents were asthmatic. *Conclusion:* most of the responses showed moderate level of awareness regarding bronchial asthma. There was a significant statistical relationship between gender and the level of awareness regarding complications of bronchial asthma, and the relation between male and female regarding symptoms of bronchial asthma.

Keywords: Bronchial, Asthma, Awareness, Broncho constriction, Riyadh.

1. BACKGROUND

Bronchial asthma is characterized by episodic wheeze, cough and breathlessness (Wu et al., 2019). Bronchial asthma presents in the form of dyspnea, wheeze, chest tightness and cough. Those symptoms vary from person to person and from one trigger to another (Jones et al., 2018). The prevalence of bronchial asthma in Saudi Arabia was 4.05%, bronchial asthma was less occurring with people who have an addiction to smoking but higher in former smokers and obese individuals (Moradi et al., 2015). Asthma can present at any age, however, it is commonly identified at childhood (Fard et al. 2021). Diagnosing asthma depends on the triad of: patient's history,

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physical examination, and pulmonary function test, and it is important to rule out diseases that mimic asthma, especially in patients who are older. Some of the common asthma symptoms are wheeze, chest tightness, and cough. These symptoms may range from being very severe to mild (Wu et al., 2019). Asthma is seen with other disorders such as rhinitis, sinusitis, and gastroesophageal reflux disease, these co-morbidities have a similar pathophysiology to asthma (Boulet and Boulay, 2011). Breathing by mouth causes increase entry of allergens and pollutants into the lower airway, which increases the risk of asthma (Boulet and O'Byrne, 2015). Work exposure is considered a common cause for asthma, in which the asthmatic patient has deterioration in status due to respiratory hazards from work. Patient's who show no improvement despite adequate treatment must be assessed for this type (Hoy et al., 2020).

Recent studies have linked a connection between school and asthma morbidity therefore the importance of knowing these allergens and pollutants and decreasing exposure to them improve the health outcome (Esty et al., 2019). This study aims to identify the level of awareness regarding bronchial asthma in Riyadh.

2. METHODOLOGY

An Institutional based cross-sectional study was conducted among Riyadh, Saudi Arabia capital city health care centers. The study took place during the period of March 2020 until September 2020. We included adults 18 and above excluding medical students and staff in this study. This study included 175 participants, using convenient sampling. The data needed was collocated using a Self-administered, pre-coded, and pre-tested questionnaire composed of close-ended questions about awareness regarding the triggers of bronchial asthma, prevalence among the Riyadh population, awareness regarding complications of bronchial asthma, and awareness regarding symptoms of bronchial asthma. This questionnaire was subjected to a probe to test for validity and reliability. Data was administered using SPSS (statistical package of social sciences) version 23 and Microsoft Excel to generate tables and charts. A P-value of 0.05 or less was considered significant. Consent was obtained from participants before data collection emphasizing confidentiality and the right of participants to withdraw from the study at any point in time.

3. RESULTS

In our study sample 116(66.3%) are females while the rest were males, and 87(49.7%) were from the age group from 18-30 and 44 (25.1%) were from the age group from 31-40 and 31(17.7%) were from the age group 41-50 and 13(7.4%) were from the age group 50+ and 154(88%) while the rest were not, and 102(58.3%) were university graduate and 53(30.3%) were secondary graduate and 8(4.6%) were primary graduate and 12(6.9%) were illiterate, and 82(46.9%) were employed and 72(41.1%) were unemployed and 21(12%) were self-employed, 77(44%) were married and 74(42.3%) were single and 17(9.7%) were widowed and 6(3.4%) were divorced. Table (1a & b) illustrates that 102(58.3%) had moderate level awareness regarding bronchial asthma, 52(29.7%) had high level, and 21(12%) had low level.

Table 1a Level of awareness regarding bronchial asthma N=175

	Variable	Yes	NO	Total
Q1	Are you asthmatic?	38(21.7%)	137(78.3%)	175
Q2	Do you know that bronchial asthma is chronic disease?	111(63.4%)	64(36.6%)	175
Q3	Do you think smoking is a triggering factor of bronchial asthma?	154(88%)	21(12%)	175
Q4	Do you think stress is a triggering factor of bronchial asthma?	92(52.6%)	83(47.4%)	175
Q5	Do you think dust is triggering factor of bronchial asthma?	170(97.1%)	5(2.9%)	175
Q6	Do you think bronchial asthma can cause death?	111(63.4%)	64(36.6%)	175
Q7	Do you think negligence can cause complication of bronchial asthma?	162(92.6%)	13(7.4%)	175

Q8	Do you think males has more chances of getting bronchial asthma than females?	80(45.7%)	95 (54.3%)	175
Q9	Do you know that shortness of breath is a symptom of bronchial asthma?	131(74.9%)	44(25.1%)	175
Q10	Do you know that coughing is a symptom of bronchial asthma?	111(63.4%)	64(36.6%)	175

Table 1b Level of awareness regarding bronchial asthma N=175

Low	Moderate	High	Total
21(12%)	102(58.3%)	52(29.7%)	175

Table (2) illustrates that 154(88%) think that smoking is a triggering factor of bronchial asthma, while 21(12%) do not, 92(52.6%) think that stress is a triggers of bronchial asthma, the remaining 83(47.4%) do not, and 170(97.1%) think that dust is a triggering factor of bronchial asthma, the remaining 5(2.9%) do not. This table shows that 81(46.3%) of the participants had a moderate level of awareness, 78(44.6%) had a high level of awareness, and 16(9.1%) had a low level of awareness, regarding the level of awareness of triggering factors of bronchial asthma.

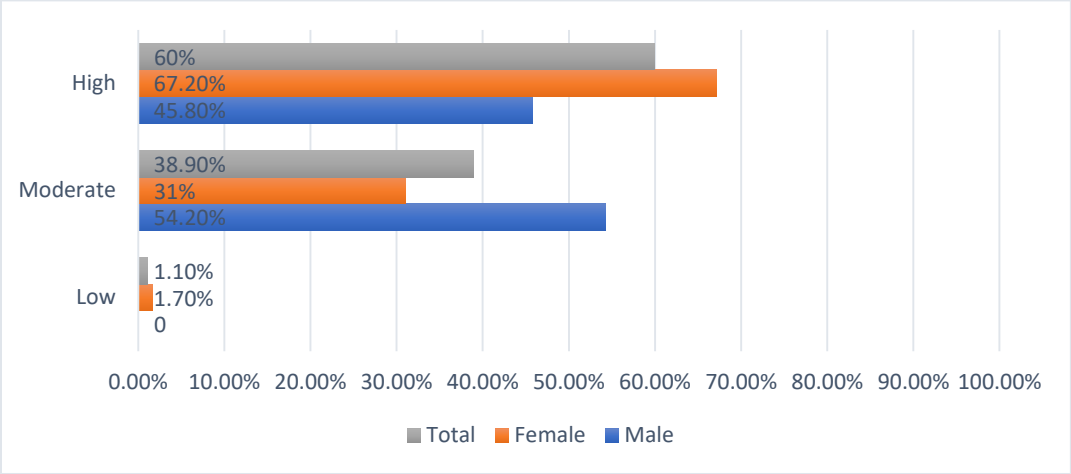
Table 2 Level of awareness regarding triggering factors of bronchial asthma N=175

Triggering factors		Yes	No	Total
Smoking		154(88%)	21(12%)	175
Stress		92(52.6%)	83(47.4%)	175
Dust		170(97.1%)	5(2.9%)	175
Level of awareness	Low	Moderate	High	Total
	16(9.1%)	81(46.3%)	78(44.6%)	175

Table (3) illustrates that 131(74.9%) think that shortness of breath is a symptom of bronchial asthma, while 44(25.1) do not, and 111(63.4%) think that coughing is a symptom of bronchial asthma while 64(36.6%) do not. This table shows that 95(54.3%) of participants had a high level of awareness, 43(24.6%) had a moderate level of awareness, and 37(21.1%) had a low level regarding the level of awareness of symptoms of bronchial asthma.

Table 3 Level of awareness regarding symptoms of bronchial asthma N=175

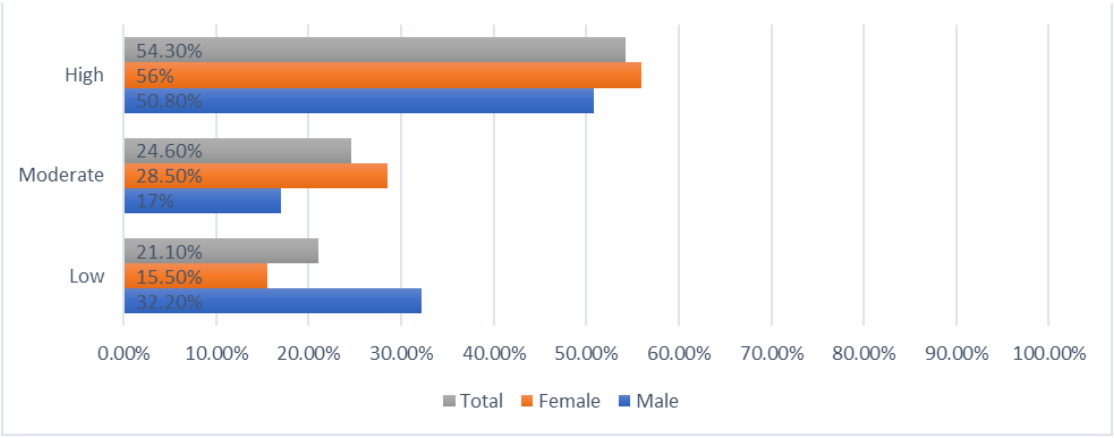
Symptoms		Yes	No	Total
Shortness of breath		131(74.9%)	44(25.1%)	175
Coughing		111(63.4%)	64(36.6%)	175
Level of awareness	Low	Moderate	High	Total
	37(21.1%)	43(24.6%)	95(54.3%)	175



P-Value = 0.009

Figure 1 Relation between male and female regarding complications of bronchial asthma.

Figure (1) illustrates that none of the males were low, 32(54.2%) were moderate, 27(45.8%) were high, 2(1.7%) of females were low, 36(31%) were moderate, 78(67.2%) were high, 2(1.1%) of the total were low, 68(38.9%) were moderate, 105(60%) were high, and there is a statistical relation between the level of awareness among males and females regarding complications of bronchial asthma. Figure (2) illustrates that 19(32.2%) of males were low and 10(17%) were moderate and 30(50.8%) were high and that 18(15.5%) of females were low and 33(28.5%) were moderate and 65(56%) were high and that 37(21.1%) of the total were low and 43(24.6%) were moderate and 95(54.3%) were high and there is statistical relation between the level of awareness among males and females regarding symptoms of bronchial asthma.



P-Value 0.024

Figure 2 Relation between male and female regarding symptoms of bronchial asthma.

4. DISCUSSION

After collecting the data and comparing the results, our study revealed that the majority of respondents had a high to moderate level of awareness regarding triggering factors. This goes in line with a study done by Alharbi et al., (2020), Saudi Arabia, and contradicts a study done by Gajanan et al., (2015), Belgaum. This may be due to the study population. This implies that the Ministry of Health should facilitate more effective education regarding the risk factors of asthma. Our study revealed that about a fifth of the respondents are asthmatic, it also showed that females seem to be slightly more aware than males regarding bronchial asthma symptoms. This implies that the community should seek more knowledge regarding bronchial asthma.

Our study showed that more than half of our respondents are highly aware of bronchial asthma complications. This contradict study were done by Sodhi et al., (2013) in India; this may be due to the study population. This implies that the Ministry of Health should facilitate more effective education regarding complications of asthma. Our study showed that more than half of our

respondents are highly aware of bronchial asthma symptoms. This goes in line with a Study done by Tageldin et al., (2015) in Egypt; implies that the Ministry of Health should facilitate more effective education regarding symptoms of asthma.

Our study also showed that the prevalence of bronchial asthma is more in males than females. This goes in line with a study done by Moradi et al., (2015) in Saudi Arabia implies that other researchers should do more researches in that aspect. It also showed that females have more level of awareness regarding bronchial asthma symptoms than males. This goes in line with a study done by Zillmer et al., (2014), in Brazil implies that the Ministry of Health should facilitate more effective education regarding symptoms of asthma.

5. CONCLUSION

The majority of responses showed a moderate level of awareness regarding bronchial asthma. There was significant statistical relationship between gender and the level of awareness regarding complications of bronchial asthma, and the relation between male and female regarding symptoms of bronchial asthma.

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Authors contribution

Amar Fathi M Khalifah, Yazan Abdullah Alansari, Abdulaziz Ibrahim Alhonaizil, Abdulaziz Ibrahim Alsadhan, Naif Abdulmohsen Almujalli, Saleh Emad Abu-Alreesh, Yaser Saleh Alkraidis , Ahmed Khalid Alghamdi, Mohammed Saud Alshrif, participated in data collection, analysis, and manuscript drafting.

Ethical approval

The study was approved by the IRB of Al Maarefa University, Riyadh, Saudi Arabia, (Ethical approval code (4/211).

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Conflict of interests

The authors declare that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

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