

Evaluation of respiratory function among homemakers exposed to indoor air pollution

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J. Adv. Pharm. Technol. Res.

ABSTRACT

Indoor air contamination is a condition that can increase cardiovascular and respiratory mortality in the present-day population. Utilizing cooking exhaust in working environments, pollutants such as Polycyclic aromatic hydrocarbons (PAHs), incense sticks, cooking in fuel and kindling oven in the kitchen, and tobacco smoke are the significant reasons for indoor air contamination. The point of this study is to make mindfulness among homemakers presented to indoor air contamination. A spellbinding cross-sectional review including 100 homemaker female subjects in the age of 40–50 know about indoor air contamination. An overview was directed among 100 home creators in regard to indoor air contamination to make mindfulness. The strategy for testing done is basic arbitrary inspecting. The aftereffects of the current review showed that respondents were greatly presented to the indoor air contamination and created side effects connected with it and generally respondents in the age gathering of 40–50 years had encountered more exhaustion, dry bothersome skin, copying and aggravation of the eyes and stodgy nose, and affiliation was measurably huge. This finding revealed the indoor air toxins that can be considered to assume a part underway to infections like asthma, and so forth.

Key words: Incense sticks, peak respiratory flow rate, poor lung function, respiration

INTRODUCTION

Indoor air contamination can increase cardiovascular and respiratory mortality in the present-day community. Utilizing cooking vapor in work environments, for example, the kitchen contains PAHs, unpredictable natural compounds, CO, incense sticks, cooking in fuel and kindling oven, and tobacco smoke are the significant reasons for indoor air contamination.^[1] Women are more

prone to hazardous indoor air contamination. In India, different investigations on the pervasiveness of respiratory side effects are more accounted due to indoor pollutants. In India, pulmonary capacity test was done among homemakers with boundaries of type fuel gas utilization. The side effects and infections are more pervasive on the grounds that more individuals are presented to different sorts of air pollution.^[2-8] Eight million homemakers passed on due to indoor air contamination, as per a report by the World Wellbeing Association. As a result of air contamination from houses 4.3 million homemakers pass on and due to encompassing air contamination 3.7 million homemakers die.^[9] Many investigations were done to get the different wellsprings of indoor air contamination and its impact on well-being. The significant wellspring of family air contamination is the utilization of biomass fuel gas for clinking.^[10] The Global Burden of Disease revealed that

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Submitted: 22-Apr-2022

Revised: 05-Jul-2022

Accepted: 18-Aug-2022

Published: 30-Dec-2022

Access this article online

Quick Response Code:



Website:

www.japtr.org

DOI:

10.4103/japtr.japtr_193_22

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How to cite this article: Raja D, Sridevi G. Evaluation of respiratory function among homemakers exposed to indoor air pollution. *J Adv Pharm Technol Res* 2022;13:S500-4.

India is as yet positioned in the third spot for family air contamination in spite of the fact that it has a reduction in family air contamination these days. Many investigations unequivocally characterize that utilizing incense sticks and clinking in the kindling oven is the fundamental driver of indoor air pollution.^[9,11-14] Hence, the focus of this study is to make mindfulness among homemakers is presented to indoor air contamination. The rationale of the study would throw light on the effects of indoor air pollution and also the results would impose the importance of controlling pollutant production in the air at home.

MATERIALS AND METHODS

An engaging cross-sectional questionnaire for 100 home creators' female subjects about indoor air contamination was administered. Informed consent was obtained from all the participants before the administration of the questionnaire. A nearby finished poll with 15 inquiries was prepared to examine the recurrence, span, sort of openness, and respiratory side effects directed among homemakers through internet-based overview structures "Google Forms." The strategy for testing done is straightforward arbitrary examining. The responses were classified, and information was gathered in dominant sheets. Measurement examination was done in SPSS (SPSS software). Chi-square test was done to dissect the familiarity with indoor air contamination among homemakers.

RESULTS

In this study, among 100 study participants, all were female. Twenty-nine percent between the age gathering of 20–30, 31% between the age gathering of 30–40, 38% age gathering of 40–50, and 2% age gathering of 50–60. Thirty-seven percent said that they have respiratory sickness and 62% said that they have no respiratory disease. Forty-six percent are having sensitivities and 57% are not having sensitivity. Forty-seven percent are having pets and 53% are not having pets. Forty percent are having dampness harm in their home. 60% are not having dampness harm in their home. Twenty-five percent have three relatives in their family, 42% have four relatives in their family, 16% have five relatives in their family, and 17% have six relatives in their family. Thirty-six percent said that they are having a genetic respiratory ailment and 64% said that they are not having an innate respiratory ailment [Figure 1]. Thirty-eight percent said that their relatives are having smoking propensities and 62% said that their family members do not have smoking propensities [Figure 2]. Sixty-five percent of review members are utilizing incense sticks and 35% of review members are not utilizing incense sticks during pooja [Figure 3]. Thirty-five percent are utilizing incense sticks daily, 14% are utilizing incense sticks once in 2 days, 20% are using utilizing sticks weekly once, and 31% are not using incense sticks [Figure 4]. Twenty-six percent are

having dry air objections at home, 12% are having stodgy air grievances at home, 36% are having residue or soil grumblings at home, 5% are having dry season protests at home, and 21% are having clamor grievances at home. Twenty percent are having to bother stodgy or running nose side effect that connect with indoor air pollution, 14% are having tingling consumption and disturbance of eyes side effect that are connected with indoor air contamination, 12% are having exhaustion side effect connected to indoor air contamination, 13% are having dry tingling red skin side effect connected to indoor air contamination, 8% are having raspy dry throat side effect connected to indoor air contamination, 3% are having dry or flushed facial skin side effect connected to the indoor air contamination, and 30% are having no change. Twelve percent are having weariness side effect connected with smoke at home, 27% are feeling weighty headed side effect connected with smoke at home, 4% are having cerebral pain side effect connected with smoke at home, 19% are having sickness or discombobulation side effect connected with smoke at home, 21% are experiencing issues in fixation side effect connected with smoke at home, 3% are tingling copying and aggravation of eyes having side effect that connected with smoke at home, and 14% are having disturbed stodgy nose side effect that connected with smoke at home.

Cross evaluation

The relationship between age and the repeat of incense sticks used was assessed. A large portion of respondents having a spot with 40–50 used incense adheres every day or perhaps consistently once stood out from other age social affairs and the association was quantifiably basic [Figure 5]. The relationship between age and the aftereffects associated with indoor air pollution was assessed and the alliance was really basic [Figure 6].

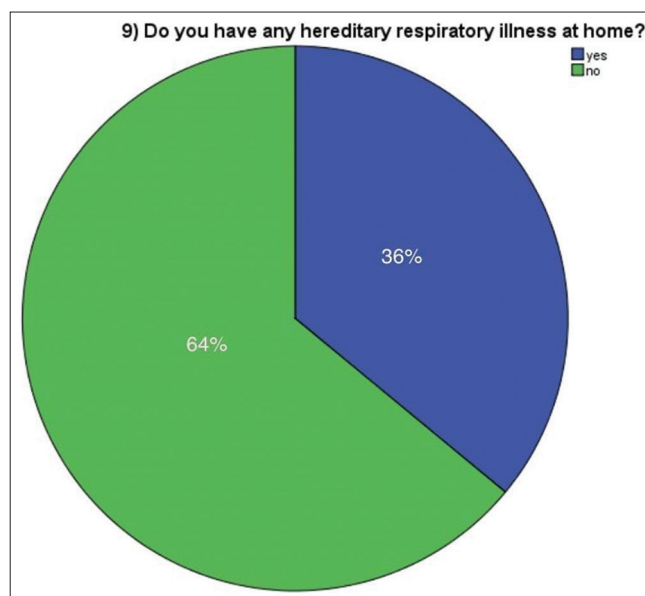


Figure 1: Hereditary respiratory illness at home

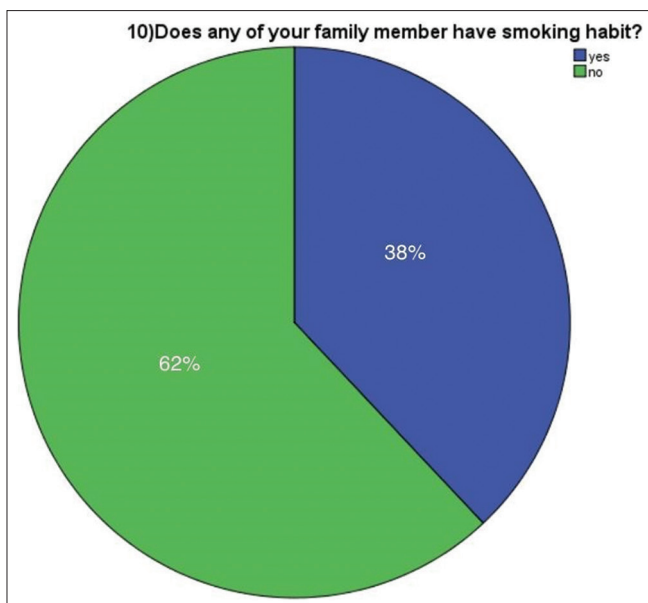


Figure 2: Smoking habits among family members

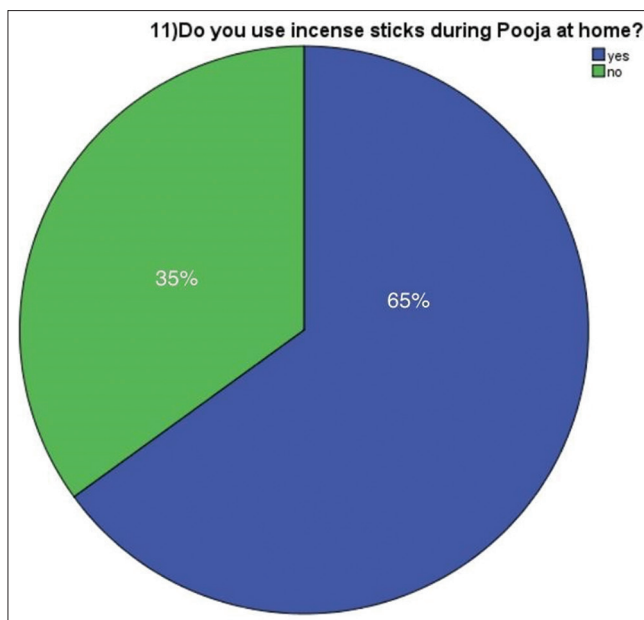


Figure 3: Use of incense stick for pooja at home

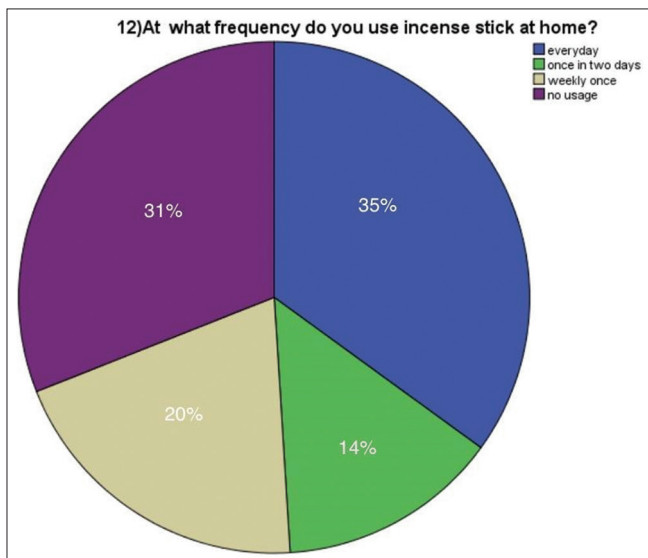


Figure 4: Frequency of incense stick usage at home

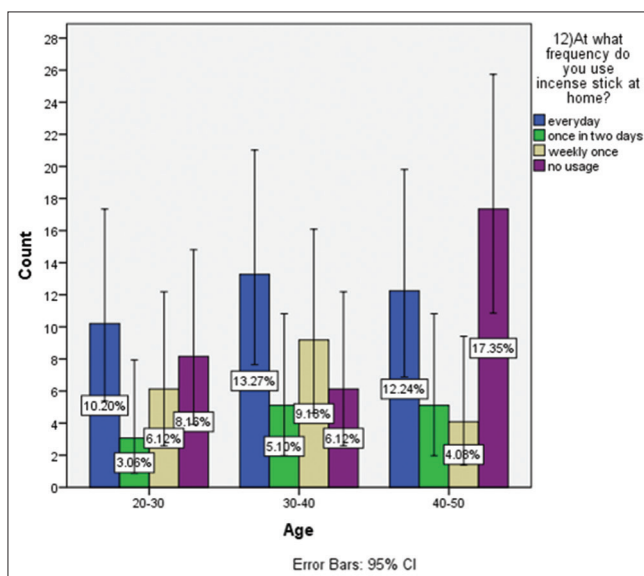


Figure 5: Recurrence of incense stick utilized at home

DISCUSSION

Indoor air quality assumes a vital part in keeping up with the airborne climate. Among the ecological circumstances adding to air quality, the indoor elements are specifically compelling to understand.^[12] The explanation being individuals invest 80% of their energy remaining inside. The normal purposes behind indoor air contamination are increased costs for oil and gas that eventually led to better protection of homes.^[15-17] This at the appropriate time will diminish the air trade rates and lower the weakening of indoor air. Past reports recommended that enlistment of asthma in youth is firmly connected with openness to ecological tobacco smoke and residing in homes near occupied streets, and in moist homes where there are

noticeable molds and openness to pet-inferred allergens and house dust vermin are generally connected with asthma onset.^[6] Inconsistent with our review, the poor nature of air at home can expand the gamble of contaminations, constant lung illnesses, and cellular breakdown in the lungs. Now and again, it might likewise worsen the current unfortunate lung conditions.^[18] Previous reports proposed that indoor smoke containing particulate matter tobacco smoke, nitrogen dioxide, formaldehyde, and unstable natural mixtures have been enormously connected with obstructive lung sicknesses such as asthma, bronchitis, and chronic obstructive pulmonary disease.^[19-26] Reports propose the presence of these mixtures could have respiratory impacts, particularly during early life. Another significant viewpoint

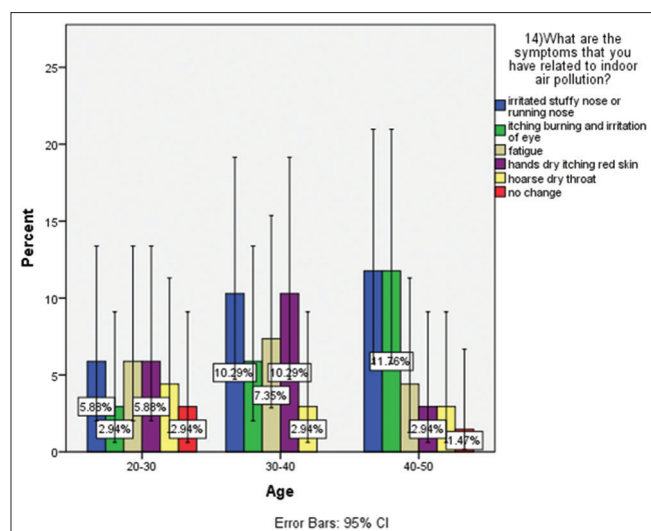


Figure 6: Side effects connected to indoor air pollution

is that the circumstance of openness to indoor air poisons is by all accounts thought about a lot to see how these parts could assume a significant part underway of illnesses like asthma. Reports reveal that air pollution exposure to people at home increase the chances of developing noncommunicable diseases such as hypertension, ischemic heart disease, cardiovascular accidents, bronchial asthma, and lung cancer. The particulate matter developed due to indoor pollutants varies in all size and fractions, in residential environments and are free of solid fuel combustion.^[16,17,27-29]

Thus, the indoor air quality and potential well-being consequences for respiratory as well as other physiological frameworks would be a future area of study for acquiring a superior comprehension of asthma and different plagues.

CONCLUSION

Indoor air pollution poses many respiratory problems and these are attributed to various toxins in the indoor air quality and were reported to increase the hazards of respiratory side effects. Thus, individuals should know about the hurtful impacts of indoor air contamination and add safety measures in way of life propensities to remain with better lungs.

Limitation

There are no limitations in this study.

Financial support and sponsorship

The present project is supported by:

- Saveetha Institute of Medical and Technical sciences
- Saveetha Dental College and Hospitals
- Saveetha University and
- PKT nursing home.

Conflicts of interest

There are no conflicts of interest.

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