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The Respiratory Effects of Chronic Exposure to Gas Flaring Among Residents of Some Communities in the Niger Delta Region of Nigeria

Les Effets Respiratoires de l'Exposition Chronique au Torchage de Gaz Chez les Résidents de Certaines Communautés de la Région du Delta du Niger, au Nigeria

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ABSTRACT

BACKGROUND: This study presents the pattern of respiratory effects seen among residents chronically exposed to gas flaring in some communities in the Niger Delta Region, Nigeria. The other health challenges associated with this chronic exposure to gas were also evaluated in the study.

METHODS: A total of three hundred and eighty-six 386 adult residents in Ibeno, Niger Delta Region who have been residents for at least two years. Four hundred and fourteen (414) age, sex, and height-matched control unexposed residents in Etinan were recruited for a cross-sectional survey study comparing their respiratory symptoms and other related health challenges. Past and current smokers were excluded from the study in both groups. The study was conducted using a questionnaire as the investigative tool. Both descriptive and inferential statistics were used to analyze the data.

RESULTS: Most of the respondents in both exposed and control communities were aged 18-30 years, with a height range of 161-170 cm. Both exposed and control subjects experienced similar symptoms suggestive of respiratory disorders, however, the prevalence was significantly higher among exposed subjects than controls: Cough- 57(14.8%) vs. 39(10.1%); breathlessness 58(15%) vs. 28(7.3); wheezing 22(5.7) vs. 12(3.1). The respondents from the exposed community were mostly traders and fishermen while the controls were predominantly farmers.

CONCLUSION: There is substantial evidence from the data presented that prolonged exposure to air pollution from gas flaring has significant respiratory and other health implications on residents in these communities reflected as increased frequency of symptoms of cough, chest pain, difficulty in breathing, wheezing, chest tightness, Skin and eye irritation. There is therefore an urgent need for intensified efforts and commitment by the government to speed up the implementation of policies regarding the reduction of flaring of natural gas associated with oil production and the adoption of measures to mitigate the effect of the exposure on human health. *WAJM 2024; 41 (5): 606 - 612*

KEYWORDS: Respiratory effect, Chronic exposure, Gas flaring, Niger Delta

RÉSUMÉ

CONTEXTE: Cette étude présente les effets respiratoires observés chez les résidents chroniquement exposés au torchage de gaz dans certaines communautés de la région du delta du Niger, au Nigeria. Les autres problèmes de santé associés à cette exposition chronique au gaz ont également été évalués dans cette étude.

MÉTHODES: Un total de 386 résidents adultes d'Ibeno, dans la région du delta du Niger, ayant résidé pendant au moins deux ans, ont été inclus dans l'étude. Quatre cent quatorze (414) résidents non exposés, appariés en fonction de l'âge, du sexe et de la taille, à Etinan ont été recrutés pour une étude transversale comparant leurs symptômes respiratoires et d'autres problèmes de santé associés. Les fumeurs passés et actuels ont été exclus de l'étude dans les deux groupes. L'étude a été menée à l'aide d'un questionnaire comme outil d'investigation. Des statistiques descriptives et inférentielles ont été utilisées pour analyser les données.

RÉSULTATS: La plupart des répondants dans les communautés exposées et témoins avaient entre 18 et 30 ans, avec une taille allant de 161 à 170 cm. Les sujets exposés et témoins ont présenté des symptômes similaires suggérant des troubles respiratoires, cependant, la prévalence était significativement plus élevée chez les sujets exposés que chez les témoins : Toux - 57 (14,8 %) contre 39 (10,1 %) ; essoufflement 58 (15 %) contre 28 (7,3 %) ; sifflement 22 (5,7 %) contre 12 (3,1 %). Les répondants de la communauté exposée étaient principalement des commerçants et des pêcheurs, tandis que les témoins étaient principalement des agriculteurs.

CONCLUSION: Les données présentées fournissent des preuves substantielles que l'exposition prolongée à la pollution de l'air due au torchage de gaz a des implications respiratoires et autres sur la santé des résidents de ces communautés, se traduisant par une fréquence accrue des symptômes de toux, douleur thoracique, difficulté à respirer, sifflement, oppression thoracique, irritation de la peau et des yeux. Il est donc urgent d'intensifier les efforts et l'engagement du gouvernement pour accélérer la mise en œuvre des politiques visant à réduire le torchage du gaz naturel associé à la production de pétrole et à adopter des mesures pour atténuer les effets de l'exposition sur la santé humaine. *WAJM 2024; 41 (5): 606 - 612*

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MOTS CLÉS: Effet respiratoire, Exposition chronique, Torchage de gaz, Delta du Niger.

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