



SDI Review Form 1.6

Journal Name:	British Journal of Medicine and Medical Research
Manuscript Number:	2013_BJMMR_7180
Title of the Manuscript:	Excess Lifetime Cancer Risk due to gamma radioactivity in and around Warri Refining and Petrochemical Company in Niger Delta, Nigeria
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



SDI Review Form 1.6

PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<p>Why energy and efficiency calibrations of the scintillation detector weren't made for low energies?</p> <p>As is known, ^{226}Ra, ^{214}Pb and ^{214}Pb are daughter products of ^{238}U. ^{208}Tl and ^{228}Ac are daughter products of ^{232}Th. In the literature, generally, the gamma transition lines for ^{226}Ra are given at 186.0 keV directly. The gamma transition lines for ^{214}Pb, ^{214}Bi, ^{208}Tl and ^{228}Ac are given at 351.9 keV, 609.2 keV, 583.1 keV and 911 keV respectively.</p>	<p>Sodium Iodide detector (NaI(Tl)) has poor resolution and it would be difficult for it to resolve low energy peaks or transition gamma ray lines especially when most of them are very close. The detector used has a modest resolution of about 8% at 662 keV and cannot sufficiently resolve lower peaks. For Hype Ge, these lower peaks are used. It is due to the poor resolution of the detector that higher and clean peaks with less continuum were used. This is usually the case when NaI(Tl) are used in gamma ray spectrometry. If we had used Hype Ge, only lower energy peaks would have been considered. Generally the results for Ge and NaI(Tl) usually would agree for the activity concentrations of the radionuclides.</p>
Minor REVISION comments	<p>Arithmetical operations in Table 3 should be checked,</p> <ul style="list-style-type: none"> - in line Ifie (2) 120.57 should be 12.57, - in line world standard values 0.29×10^{-3} should be 0.25×10^{-3} 	<p>This observation has been corrected in the revised version of this paper. According to Taskin et al (2009).[4], the world permissible level of cancer risk is 0.29×10^{-3}.</p>



SDI Review Form 1.6

<p><u>Optional/General</u> comments</p>	<p>Seemingly from the manuscript title and content ,the purpose of this study is to determine the rate of Excess Lifetime Cancer Risk due to environmental pollution from the petrochemical refinery running for many years in Niger Delta. In actuality, petrochemical plants doesn't cause an increase in the radioactivity of environmental samples. So, if the region investigated in terms of chemical pollution it would be more useful.</p> <p>In this study, soil samples collecting from the region were analyzed by the gamma spectrometric method and the absorbed dose rates in air coming from the terrestrial radionuclides, the annual effective dose equivalents and lifetime cancer risk rates were calculated.</p>	<p>Chemical pollution is important too as much as radiological pollution. We considered radiological pollution given the level of the use of Radioactive materials in petroleum industry in the country. There is no stronger monitoring and regulation of activities of RAMs in the country and any uncontrolled disposal of RAMs can take place in the environment. Since this is a baseline, it will provide information on the state of the environment radiological as no report exists on that. Many chemical pollution works in the area abound in literature and especially the Niger Delta region where the study area is located. We feel it is important that this study adds to the knowledge of the environment in terms of radiation and its effect.</p>
--	--	--