

PEER-REVIEW REPORT

Name of journal: World Journal of Nephrology

Manuscript NO: 65090

Title: Serum phosphate and chronic kidney and cardiovascular disease. Phosphorus potential implications in general population

Reviewer's code: 02890405

Position: Peer Reviewer

Academic degree: FRCP (C), MBBS, PhD

Professional title: Professor

Reviewer's Country/Territory: Canada

Author's Country/Territory: Greece

Manuscript submission date: 2021-02-27

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-02-28 19:16

Reviewer performed review: 2021-02-28 22:51

Review time: 3 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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SPECIFIC COMMENTS TO AUTHORS

The author has provided an overview of the importance of serum phosphate levels on progressive chronic kidney disease and cardiovascular disease both in the presence and absence of chronic kidney disease. The surveyed literature indicates that the question of whether phosphate is a toxin or merely reflective of other endothelial and nephrotoxins remains unsolved and intriguing. However, the author makes a very bold statement that unnecessary dietary phosphate intake should be avoided. I have the following suggestions to improve the review. 1. The abstract and core tip need to be completely redone. The abstract makes undue reference to the authors' own work and principal findings, rather than summarizing the literature appropriately. The core tip recommends phosphate restriction in people with normal kidney function. It may be more realistic to simply state that phosphate levels should be monitored so that they are maintained in the normal range. 2. Section 3 should be the first section, and logically followed by sections 1 and 2. If possible, a diagram with renal function on the x axis and various mechanisms at each stage should be considered. This figure will be more valuable than tables 1 and 2 that don't really add much to the paper. 3. There are several ongoing clinical trials (clinicaltrials.gov) of phosphate lowering in CKD and dialysis patients. At least one or two trials should be mentioned. 4. What is the role of high PTH and vitamin D deficiency in phosphate toxicity? 5. It is inappropriate at this time to recommend dietary phosphate restriction to the general population. Any mention of this recommendation should be removed. 6. It will be helpful to the reader to separate mechanistic/basic science studies and clinical studies into separate paragraphs within each section (3, 1, 2), followed by a brief conclusion in each section. 7. The English is good but can be improved. Some strange words can be replaced, for example, "enclosed" with "enrolled".

PEER-REVIEW REPORT

Name of journal: World Journal of Nephrology

Manuscript NO: 65090

Title: Serum phosphate and chronic kidney and cardiovascular disease. Phosphorus potential implications in general population

Reviewer's code: 05778529

Position: Peer Reviewer

Academic degree: PhD

Professional title: Associate Professor

Reviewer's Country/Territory: Poland

Author's Country/Territory: Greece

Manuscript submission date: 2021-02-27

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2021-03-11 11:43

Reviewer performed review: 2021-03-16 09:43

Review time: 4 Days and 22 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

Dear Author, The manuscript titled: "Serum phosphate and chronic kidney and cardiovascular disease" by Vaia D. Raikou aimed to discuss the role of serum phosphorus concentration on cardiovascular outcomes and progression of renal dysfunction in chronic kidney disease, but also its implication in general population. The review is generally well designed, well presented and the conclusions are potentially of a certain interest. The general message of the paper includes known bad outcomes of hyperphosphatemia in chronic kidney disease but also an attempt to answer the question how disordered phosphorus homeostasis could influence the health risk in general population. There are some issues that should be addressed. 1. Title: You should also refer to potential implications for the general population. 2. Abstract: You should rather omit describing your previous studies in this section and include them to the introduction. Here, only summary of the present paper. Key words should be in accordance with Medical Subject Headings in PubMed (<http://www.ncbi.nlm.nih.gov/pubmed>), please verify them. Not all of the abbreviations used in the section: Core tip are explained (i.e. ESRD, CKD), please go through the paper thoroughly. 3. Introduction: To clarify the issue, it would be worth to include some short graph/figure presenting to date knowledge about the influence of hyperphosphatemia on different organs/tissues. 4. Discussion: The best resume of the manuscript at the end of the discussion would be another graph/figure presenting main findings, new actions/pathomechanisms of the hyperphosphatemia, underlined points emerged from your paper. 7. Reference: References need somewhat updating, most of them refer to several years before. 8. Table and figure: You should maybe consider the 3rd Tabel with recommendations of phosphorus intake in different population. 9. There are several misspelling and grammar errors. Please go through the



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paper thoroughly. 10. Finally, considering the whole article, your manuscript might be accepted for publication in the WJN pending changes mentioned above.