Review Form 1.7

Journal Name:	**Journal of Advances in Medicine and Medical Research**
Manuscript Number:	**Ms_JAMMR_116975**
Title of the Manuscript:	**Platelets regulates cell viability and VEGF-A mRNA expression in HaCaT cell line**
Type of the Article	**Original**

Review Form 1.7

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 1. **Is the manuscript important for scientific community?** (Please write few sentences on this manuscript) 2. **Is the title of the article suitable?** (If not please suggest an alternative title) 3. **Is the abstract of the article comprehensive?** 4. **Are subsections and structure of the manuscript appropriate?** 5. **Do you think the manuscript is scientifically correct?** 6. **Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	**The article titled "Platelets Regulate Cell Viability and VEGF-A mRNA Expression in HaCaT Cell Line" addresses a pertinent topic in the field of regenerative medicine, exploring the potential of platelet-rich plasma (PRP) in modulating cell survival and VEGF-A mRNA expression. Below is a comprehensive analysis, highlighting both the strengths of the study and opportunities for improvement.** **Strengths:** **Relevance of the Topic: The study delves into a promising area of regenerative medicine, elucidating the role of platelets in cell survival regulation and VEGF-A mRNA expression. This is significant as PRP is increasingly utilized in therapeutic procedures to promote tissue regeneration.** **Clear and Reproducible Methodology: The methodology employed in the study is clear and presents a standardized approach, from the preparation of PRP to the cellular and molecular analyses conducted. This facilitates the replication of the study by other researchers, contributing to the validity of the results.** **Consistent Results: The obtained results align with the objectives of the study. The analysis of cellular viability (MTT) demonstrated higher cell viability in the PI-PRP group compared to the control group (CTRL), and the analysis of VEGF-A mRNA expression showed an increase in expression in the PI-PRP group. These findings corroborate the hypothesis that platelets play a significant role in cell survival regulation and VEGF-A expression.** **Efficiency of Centrifugation: The study demonstrated the efficacy of the centrifugation protocol in obtaining platelet enrichment in plasma, which is crucial to ensure the validity of the results and the applicability of the method in future research and clinical applications.** **Opportunities for Improvement:** **Limitations in Cellular Morphology Analysis: Although the study assessed cellular viability and VEGF-A mRNA expression, the analysis of cellular morphology was limited to staining techniques such as DAPI and phalloidin. A more detailed analysis of cellular morphology, possibly utilizing transmission or scanning electron microscopy, could provide additional insights into the effects of PI-PRP on cellular structure.** **Need for Confounding Variables Control: The study did not fully address the potential influence of confounding variables such as the age of blood donors, PRP preparation method, and platelet concentration in PI-PRP. Controlling these variables could help ensure the internal validity of the results and accurate interpretation of the effects of PI-PRP on HaCaT cells.** **Expansion of Functional Analysis: In addition to the analysis of VEGF-A mRNA expression, it would be beneficial to conduct a more comprehensive evaluation of the effects of PI-PRP on cellular signaling pathways related to tissue regeneration. This could include the analysis of expression of other growth factors, proteins related to angiogenesis and cell proliferation, among other functional markers.** **Consideration of Alternative Cellular Models: While the use of the HaCaT cell line is common in studies of tissue regeneration, considering the external validity of the results by exploring other cellular models or three-dimensional culture systems could provide a more comprehensive understanding of the effects of PI-PRP in different biological contexts.** **Conclusion:**	

	In summary, the article "Platelets Regulate Cell Viability and VEGF-A mRNA Expression in HaCaT Cell Line" presents significant contributions to the understanding of the role of platelets in cell survival regulation and VEGF-A expression. While it has strengths such as clear methodology and consistent results, there are opportunities for improvement, including a more detailed analysis of cellular morphology, control of confounding variables, and expansion of functional analysis. Addressing these opportunities can strengthen the validity and relevance of the results, contributing to further advancements in the field of regenerative medicine.	
Minor REVISION comments 1. **Is language/English quality of the article suitable for scholarly communications?**		
Optional/General comments		

PART 2:

	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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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