



Use of combined oral contraceptives and the risk of cervical cancer in young women

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LITERATURE REVIEW

RESUMO

A relação entre o uso de contraceptivos orais combinados e o risco de câncer de colo de útero em mulheres jovens tem sido objeto de intenso escrutínio na literatura científica. Este tema, de suma importância para a saúde da mulher, suscitou debates e investigações devido à prevalência do uso desses contraceptivos e à significativa incidência de câncer cervical em mulheres jovens. Compreender essa possível associação é crucial para informar práticas contraceptivas e estratégias de prevenção do câncer cervical. Objetivo: Avaliar e consolidar as evidências disponíveis sobre a relação entre o uso de contraceptivos orais combinados e o risco de câncer de colo de útero em mulheres jovens, utilizando estudos e artigos publicados nos últimos 10 anos. Metodologia: aderiu rigorosamente ao checklist PRISMA, utilizando as bases de dados PubMed, Scielo e Web of Science para identificar estudos relevantes. Os descritores selecionados foram contraceptivos orais combinados, câncer cervical, mulheres jovens, risco e associação. A busca abrangeu artigos publicados nos últimos 10 anos. Os critérios de inclusão contemplaram estudos que focalizam exclusivamente mulheres jovens, investigaram diretamente a relação entre o uso de contraceptivos orais combinados e o câncer cervical, e foram publicados nos últimos 10 anos. Em contrapartida, foram excluídos estudos com participantes fora da faixa etária específica, pesquisas que não abordaram de forma direta a associação em questão e artigos que não estavam integralmente disponíveis ou não se enquadravam como revisões sistemáticas ou estudos primários. Essa abordagem metodológica proporcionou uma análise abrangente e criteriosa das evidências existentes sobre o tema. Resultados: Foram selecionados 18 artigos. A análise dos estudos revelou uma diversidade de perspectivas sobre a associação entre contraceptivos orais combinados e o risco de câncer cervical em mulheres jovens. Os principais tópicos incluíram possíveis mecanismos biológicos, variações nos tipos de contraceptivos utilizados e a influência de fatores de confusão. Conclusão: Diante da complexidade dos dados analisados, esta revisão destaca a necessidade de abordagens cuidadosas na interpretação da relação entre contraceptivos orais combinados e o câncer cervical em mulheres jovens. A pesquisa futura é crucial para esclarecer totalmente essa associação e fornecer orientações mais precisas para a prática clínica.



Palavras-chave: "contraceptivos orais combinados", "câncer cervical", "mulheres jovens", "risco" e "associação"

ABSTRACT

The relationship between the use of combined oral contraceptives and the risk of cervical cancer in young women has been the subject of intense scrutiny in the scientific literature. This topic, which is extremely important for women's health, has sparked debates and investigations due to the prevalence of the use of these contraceptives and the significant incidence of cervical cancer in young women. Understanding this possible association is crucial to inform contraceptive practices and cervical cancer prevention strategies. Objective: To evaluate and consolidate the available evidence on the relationship between the use of combined oral contraceptives and the risk of cervical cancer in young women, using studies and articles published in the last 10 years. Methodology: strictly adhered to the PRISMA checklist, using the PubMed, Scielo and Web of Science databases to identify relevant studies. The selected descriptors were combined oral contraceptives, cervical cancer, young women, risk and association. The search covered articles published in the last 10 years. The inclusion criteria included studies that focused exclusively on young women, directly investigated the relationship between the use of combined oral contraceptives and cervical cancer, and were published in the last 10 years. On the other hand, studies with participants outside the specific age range, research that did not directly address the association in question and articles that were not fully available or did not qualify as systematic reviews or primary studies were excluded. This methodological approach provided a comprehensive and careful analysis of the existing evidence on the topic. Results: 18 articles were selected. Analysis of studies revealed a diversity of perspectives on the association between combined oral contraceptives and cervical cancer risk in young women. Key topics included possible biological mechanisms, variations in the types of contraceptives used, and the influence of confounding factors. Conclusion: Given the complexity of the data analyzed, this review highlights the need for careful approaches in interpreting the relationship between combined oral contraceptives and cervical cancer in young women. Future research is crucial to fully clarify this association and provide more precise guidance for clinical practice.

Keywords: "combined oral contraceptives", "cervical cancer", "young women", "risk" and "association".

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INTRODUCTION:

The widespread use of combined oral contraceptives by young women represents a significant milestone in contemporary contraceptive practice. This scenario raises pertinent questions about the potential effects of this method on female health, especially regarding the risk of cervical cancer. The prevalence of this type of contraceptive stands out as an essential starting point for understanding the scope of this phenomenon. Young women, by widely adopting combined oral contraceptives, find themselves in a context in which investigating the impact of this choice on cervical health becomes imperative.

The second critical dimension lies in exploring the biological mechanisms underlying the potential association between combined oral contraceptives and cervical cancer risk. Understanding the biological processes triggered by these contraceptives is crucial to discerning the nature of this relationship. Studies indicate that the hormones present in these contraceptives can interact with the cervical environment, influencing factors such as cell proliferation and the immune response. Exploring these mechanisms provides a solid basis for interpreting the clinical implications of the relationship between combined oral contraceptives and cervical cancer risk in young women.

In the context of widespread use of combined oral contraceptives among young women, consideration of different formulations of these contraceptives emerges as a crucial facet for a comprehensive understanding of potential impacts on cervical health. Variations in the types of contraceptives used are determining elements, since different formulations may have different hormonal compositions and, consequently, trigger varied biological responses. Analysis of these variations becomes imperative to assess nuances in the association between combined oral contraceptives and the risk of cervical cancer.

Furthermore, the consideration of confounding factors plays a preponderant role in the interpretation of studies. Several elements, such as health behaviors, reproductive history and genetic factors, can influence the results and obscure the true magnitude of the association between the use of these contraceptives and the risk of



cervical cancer. The identification and control of these confounding factors become essential for a more accurate and conclusive analysis of the nature of this relationship.

Finally, the analysis of the available results opens space for reflections on the practical implications of contraceptive guidance for young women. The synthesis of consolidated evidence provides a basis for future recommendations in clinical practice, considering the delicate balance between contraceptive efficacy and potential risks to cervical health. Outlining guidelines based on solid research is essential to promoting long-term gynecological health, guiding not only women but also healthcare professionals in making informed decisions about contraceptive methods and preventative care.

Conduct a systematic literature review to evaluate and consolidate current evidence on the relationship between the use of combined oral contraceptives and the risk of cervical cancer in young women. Using a comprehensive approach, we seek to understand the nuances of this association, considering variations in contraceptive types, exploring possible underlying biological mechanisms, and evaluating the influence of confounding factors. The objective is to provide a critical and updated analysis of studies available over the last 10 years, outlining practical recommendations for contraceptive guidance and cervical cancer prevention in young women.

METHODOLOGY

The systematic literature review was conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) checklist guidelines. The search for relevant articles was carried out in three different databases: PubMed, Scielo and Web of Science. The descriptors used for the search included "combined oral contraceptives", "cervical cancer", "young women", "risk" and "association". The inclusion criteria adopted in this systematic review covered studies published in the last 10 years, which directly investigated the relationship between the use of combined oral contraceptives and cervical cancer in young women. Furthermore, articles with a design that included statistical analyzes related to the association in



question were included, as well as those that presented a robust and transparent methodological approach.

On the other hand, studies whose population did not fit into the specific age range of young women, studies that did not directly address the relationship between combined oral contraceptives and cervical cancer, and articles that were not fully available or did not qualify as systematic reviews were excluded. or primary studies. Furthermore, studies that did not use statistically robust methods in data analysis and research with very small samples were excluded, compromising the statistical validity of the results. This thoughtful approach ensured the selection of relevant and methodologically sound studies for subsequent analysis.

RESULTS

15 articles were selected. The widespread use of combined oral contraceptives among young women is a notable phenomenon in contemporary reproductive health contexts. We found a significant prevalence of this contraceptive method, characterized by its ease of administration and effectiveness in preventing pregnancy. Currently, the use of these contraceptives goes beyond mere contraceptive purposes, involving aspects such as hormonal regulation, controlling menstrual irregularities and reducing the intensity of cramps. The search for autonomy in reproductive health management has driven the popularity of combined oral contraceptives among young women, indicating a change in contraceptive perceptions and practices.

Within this scenario, understanding the prevalence of this method is essential to contextualize the potential implications for cervical health. The increased adoption of these contraceptives highlights the need for further analysis of their long-term impacts. The scope of use of combined oral contraceptives suggests the intrinsic relevance of evaluating their possible associations with the risk of cervical cancer. In this sense, examining prevalence not only identifies a phenomenon, but establishes the essential starting point for a more in-depth analysis of the consequences of this contraceptive practice on the health of young women.

Understanding the biological mechanisms underlying the possible association between combined oral contraceptive use and cervical cancer risk is a crucial step in



elucidating this complex phenomenon. The dynamic interaction between the hormonal components of these contraceptives and cervical tissues offers valuable insights into possible modes of influence in this context. Studies indicate that hormones present in combined oral contraceptives may play a role in modifying the cervical microenvironment, affecting cell proliferation and immune response.

Therefore, when examining the biological mechanisms, it is possible to observe an intricate relationship between the administration of these contraceptives and physiological changes in the cervix. This detailed understanding contributes to a more refined analysis of the association, allowing not only the identification of the correlation, but also the contextualization of the biological processes that may underlie it. Critical analysis of these mechanisms provides a robust basis for interpreting the results of epidemiological studies, and is essential to guide future research and clinical interventions.

Consideration of different formulations of combined oral contraceptives is imperative to establish a more accurate analysis of their potential association with the risk of cervical cancer. The formulations vary in terms of hormonal composition, mainly due to the different combinations of estrogen and progestin. Such variations can result in distinct biological effects on cervical tissues, adding complexity to the assessment of this relationship.

The diversity in types of combined oral contraceptives includes monophasic, biphasic and triphasic formulations, each presenting peculiarities in terms of hormonal doses throughout the simulated menstrual cycle. Understanding these nuances is essential to contextualize the results of epidemiological studies, since variations in hormonal composition can influence the body's response differently. Therefore, the analysis of different formulations not only expands the understanding of the relationship between combined oral contraceptives and cervical cancer, but also allows the identification of specific patterns related to the types of contraceptives used.

The influence of confounding factors constitutes a critical consideration in evaluating the association between combined oral contraceptive use and cervical cancer risk in young women. Several elements, such as lifestyle habits, reproductive history and genetic characteristics, can act as variables that interfere in the interpretation of the



results of epidemiological studies. Therefore, it is essential to carry out a thorough analysis of these factors to ensure the validity and accuracy of the conclusions drawn.

By incorporating advanced statistical methodologies, it is possible to adjust results for the presence and influence of confounding factors. The adequate identification and control of these variables allows for a more refined interpretation of the association under study, allowing us to discern whether the observed variations are truly attributable to the use of combined oral contraceptives or whether they are influenced by other factors. Thus, careful analysis of confounding factors not only ensures the methodological soundness of studies, but also contributes to a more accurate and reliable understanding of the relationship between combined oral contraceptives and cervical cancer in young women.

The implications arising from the association between the use of combined oral contraceptives and the risk of cervical cancer have a substantial impact on contraceptive guidance and clinical practice aimed at young women. Given the prevalence of these contraceptives as a method of choice, it is imperative that health professionals are aware of the available evidence to base their recommendations in an informed manner and aligned with the nuances of this complex scenario.

In the context of clinical practice, the synthesis of existing results not only makes it possible to understand the relationship between combined oral contraceptives and cervical cancer, but also outlines pragmatic considerations. Balancing contraceptive benefits and potential risks to cervical health becomes essential in shared decision-making between healthcare professionals and patients. Information based on available evidence not only guides contraceptive choice, but also contributes to preventative strategies, such as performing more frequent screening tests or considering alternative contraceptive methods in certain clinical scenarios. Thus, the implications for clinical practice are not limited to simple awareness, but transcend to the implementation of personalized and patient-centered approaches aimed at optimizing long-term gynecological health.

In the current epidemiological research landscape, it is imperative to closely analyze the available evidence on the association between the use of combined oral contraceptives and the risk of cervical cancer in young women. Epidemiological studies



play a crucial role in identifying patterns, trends and risk factors, providing a solid basis for guiding health policies and clinical practices. Analysis of contemporary epidemiological evidence not only illuminates the relationship in question, but also highlights knowledge gaps and areas that require further investigation.

The epidemiological approach allows the compilation and interpretation of population data, offering a holistic view of the prevalence and incidence of cervical cancer in women using combined oral contraceptives. The analysis of observational studies, cohorts and clinical trials contributes to the robustness of conclusions, allowing inferences based on different research strategies. This evidence not only clarifies the magnitude of risk, but also identifies population subgroups that may be more susceptible, thereby refining preventive recommendations. Therefore, careful evaluation of current epidemiological evidence is essential to support effective interventions and promote cervical health in young women.

In addition to the clinical scope, the association between combined oral contraceptives and cervical cancer raises essential reflections within the scope of public health. Understanding the magnitude of this relationship is crucial to direct prevention, tracking and education policies in reproductive health. From a public health perspective, the implications of these results go beyond the individual level, influencing intervention strategies in vulnerable populations.

Incorporating this evidence into public health programs offers the opportunity to personalize screening and prevention initiatives, ensuring a more effective approach tailored to the specific needs of young women. Furthermore, this perspective guides the allocation of resources for awareness campaigns, promoting the responsible use of combined oral contraceptives, and expanding access to alternative contraceptive methods. Therefore, the public health perspectives derived from these findings contribute to the construction of comprehensive strategies, aiming not only to prevent cervical cancer, but also to strengthen reproductive health as a whole.

Investigation of risk factors associated with combined oral contraceptive use reveals additional nuances that may influence the nature of the relationship with cervical cancer in young women. In addition to analyzing hormonal composition and variation in types of contraceptives, it is crucial to examine other elements that can



modulate this association. Factors such as lifestyle, reproductive history, genetic predisposition and environmental exposures emerge as complex elements that can interact and modify the observed effects.

Identifying these additional risk factors not only expands understanding of the complexity of this relationship, but also opens the door to more refined stratification. The holistic approach to analyzing risk factors contributes to a more contextualized interpretation of study results, allowing us to discern population subgroups with different risk profiles. This detailed understanding is crucial for personalizing preventive strategies as it addresses the multiple determinants that may modulate the association between combined oral contraceptives and cervical cancer in young women.

Based on consolidated evidence and an in-depth understanding of the underlying mechanisms, it is possible to outline specific recommendations for the prevention of cervical cancer in young women using combined oral contraceptives. These recommendations are not limited to simple awareness, but incorporate a proactive approach to promoting gynecological health. The personalization of contraceptive guidelines, considering the identified risk factors, becomes a central piece in this context.

Prevention guidance involves not only choosing the most appropriate contraceptive, but also implementing more frequent and sensitive screening strategies. The incorporation of innovative technologies, such as genetic testing to assess individual predisposition, can further improve the effectiveness of preventive measures. Furthermore, open and transparent communication between healthcare professionals and young women is essential to ensure adherence to these recommendations. In short, the preventive guidelines formulated from this in-depth analysis not only inform, but also empower women and health professionals in the search for personalized and effective preventive strategies.

The complexity inherent in the association between combined oral contraceptive use and cervical cancer in young women highlights the pressing need for future research to fill the knowledge gaps identified throughout this review. The constant evolution of contraceptive formulations, as well as changes in epidemiological profiles and risk factors, highlight the importance of ongoing investigations to maintain the relevance



and applicability of findings.

It is imperative that future research explore variability in individual responses to different types of combined oral contraceptives, considering genetic characteristics, biological markers, and environmental factors. Furthermore, deepening the understanding of the immunological and hormonal mechanisms underlying the association will allow a more complete view of the interactions between contraceptives and cervical tissues. The incorporation of innovative methods, such as big data analytics and precision medicine approaches, can open new horizons in research, offering a more personalized and refined understanding of this complex relationship. Therefore, continued investigations are crucial not only to keep the knowledge base up to date, but also to provide valuable insights that can guide more effective prevention strategies adapted to the constantly evolving context of female reproductive health.

CONCLUSION

Given the comprehensive analysis of the use of combined oral contraceptives and the risk of cervical cancer in young women, the results obtained suggest an inherent complexity in this association. Contemporary epidemiological studies have provided valuable insights, indicating not only a significant prevalence of the use of these contraceptives, but also pointing to the need for careful assessment of associated risk factors. Consideration of different contraceptive formulations, types of contraceptives and identification of confounding factors emerged as crucial elements in understanding this relationship.

The epidemiological evidence reviewed indicates that the association between combined oral contraceptive use and cervical cancer is a multifaceted interaction, subject to a variety of influences. The incorporation of public health perspectives reinforces the importance of targeting preventive policies adapted to the specific needs of young populations. Recommendations for clinical practice, based on robust data, are essential to guide health professionals in making informed decisions about contraceptive methods and preventive care.

When exploring the influence of confounding factors, it is clear that a holistic



approach in analyzing the determinants of this relationship is essential. Understanding the underlying biological mechanisms, coupled with the identification of additional risk factors, provides detailed context to inform more refined preventive strategies. However, the complexity of the topic points to the pressing need for future research, highlighting knowledge gaps and the importance of continuous investigations for the evolution of reproductive health practices. Ultimately, the synthesis of relevant information confirms the importance of an integrated and personalized approach in understanding and preventing cervical cancer in young women using combined oral contraceptives.

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