

A study to analyze the effect of female literacy and accessibility to healthcare facilities on the prevalence of childhood (6-59 months) anemia in rural India

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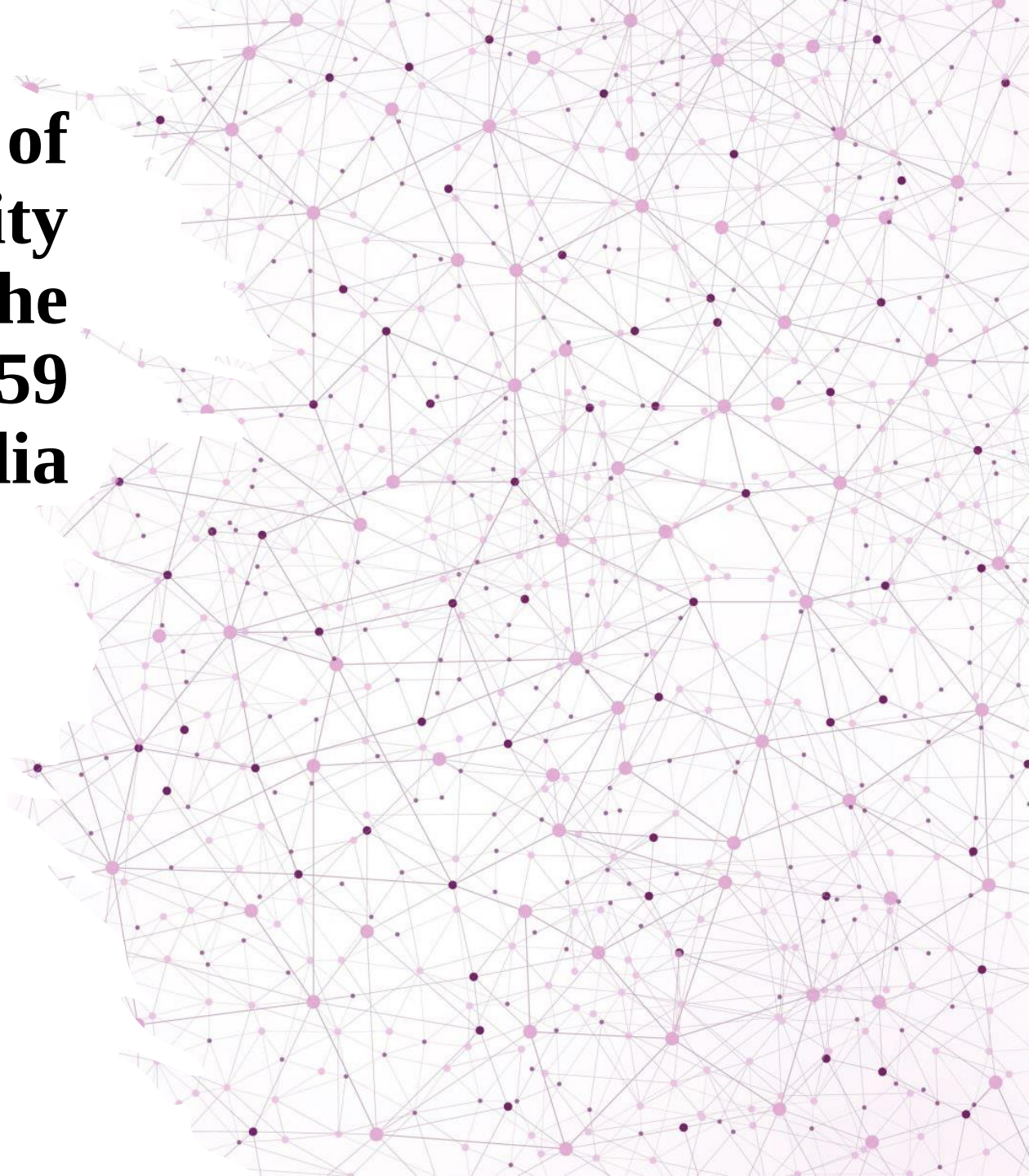


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Introduction

- Anemia is one of the most serious public health concerns in India among children within 5 years of age.
- According to NFHS-5 (2019-21), the prevalence rate stands at 67.1% which is an almost 10% increase since NFHS-4 (2014-15).
- Apart from nutritional factors, socio-economic and demographic factors like wealth, place of residence, maternal education and access to healthcare facilities play a vital role in the burden of anemia in India.
- This study investigates the effect of female literacy and accessibility to healthcare facilities on the prevalence of childhood anemia in rural India.
- The study's findings provide valuable insights into the relationship between female literacy and accessibility to healthcare facilities with childhood anemia prevalence.



Research Question:

- What is the relationship between female literacy, accessibility to healthcare services and the prevalence of childhood anemia among children aged 6-59 months in India, and what are the potential implications for public health policy and interventions?

Objectives:

- To analyze the prevalence of childhood anemia and correlate it with female literacy and accessibility to healthcare services among children aged 6-59 months in India.
- To assess the potential implications of the findings for public health policy and interventions aimed at reducing childhood anemia in India, with a particular focus on the role of female literacy and accessibility to healthcare.
- Identify the barriers and facilitators to the successful implementation of programs to reduce the burden of anemia in India and the improvement of female literacy.

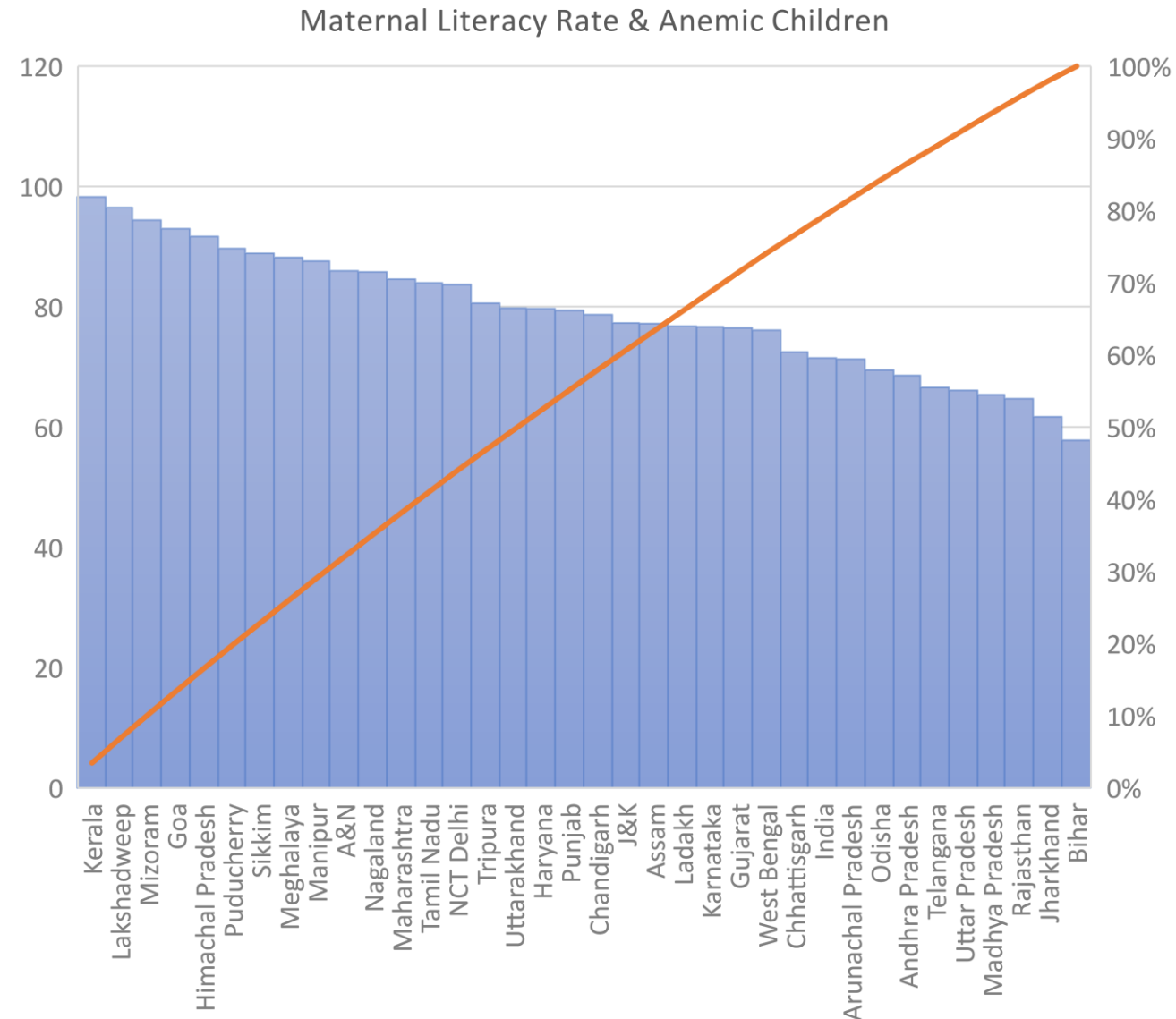
Research Design and Sources of Study

- This study evaluated the existing literature on the role of health infrastructure and female literacy on the prevalence of childhood anemia in India. The review included secondary research of both qualitative and quantitative studies published in peer-reviewed journals, government reports, and grey literature.
- Childhood (6-59 months) anemia indicators were drawn from NFHS 5. Following that, these indicators will be compared with female literacy data of various states that too from NFHS 5. Data for the accessibility of public healthcare facilities was drawn from RHS 21-22.
- For data analysis, MS Excel 365 was used to calculate correlation coefficients of both female and male literacy with respect to anemia under 5 years of age.



Results

- The data analysis in this study proves that maternal literacy and healthcare access are important determinants of childhood anemia prevalence, in rural India.
- The study found a negative correlation between female literacy and childhood anemia [r (33) = -0.63, p < .001] prevalence, indicating that higher maternal education levels were associated with lower anemia rates among children aged 6-59 months.
- Additionally, the study found a similar trend in which lack of healthcare facilities was associated with higher childhood anemia prevalence, suggesting that better access to healthcare services could help reduce the burden of anemia in rural areas.



Results contd...

It is interesting to note that 4 out of the top 5 states identified to have the highest anemic children in relation to maternal literacy (from the Pareto chart), also have the highest shortfall of healthcare facilities in the rural areas.

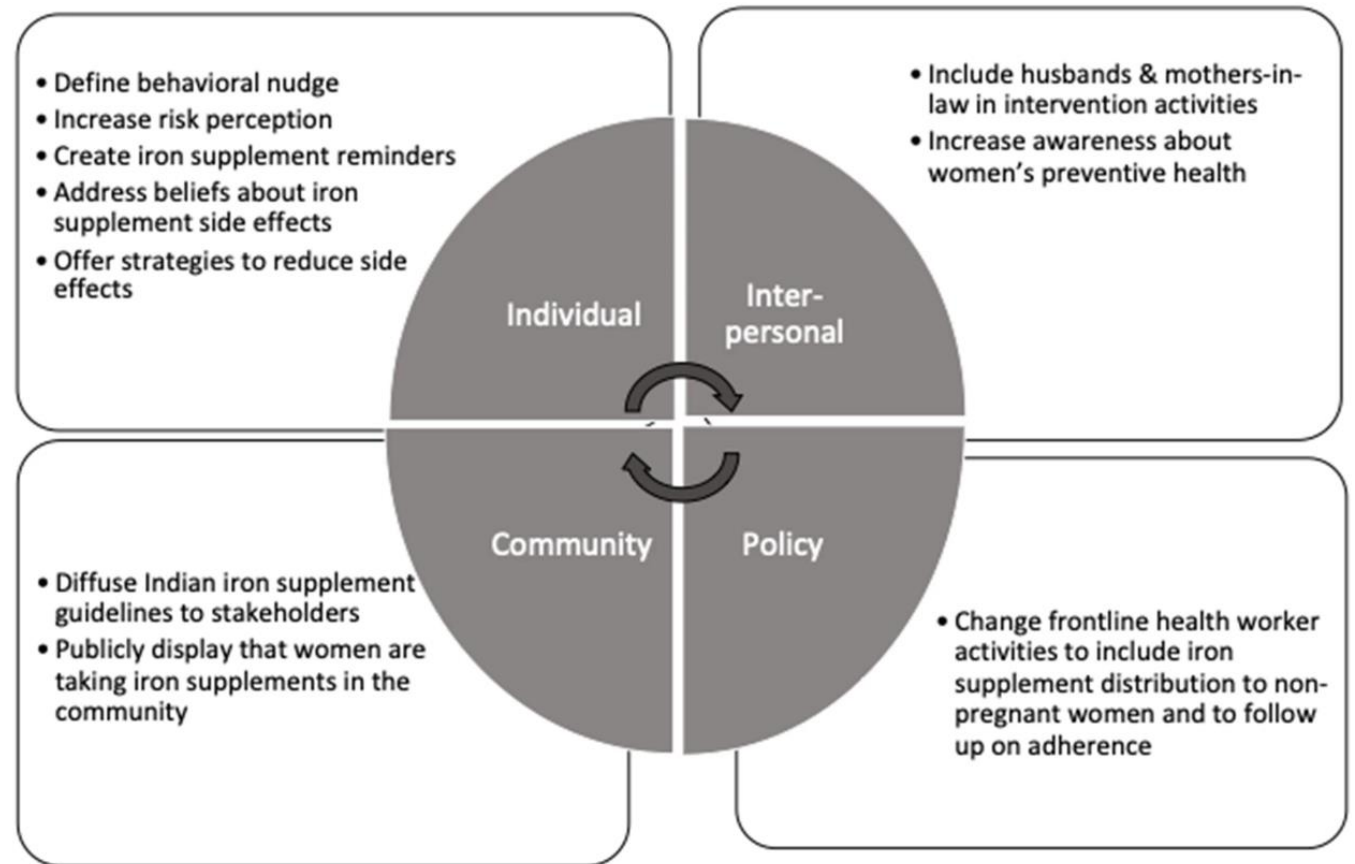
This study gives an understanding into the relation between the three factors at play. Many studies have earlier identified both maternal literacy and accessibility to healthcare facilities as important factors contributing to anemia, but this study aimed to unify both the factors.



Discussion

- It is important to note that, this study has focussed on rural India and hence provides a picture of the rural landscape. This focus was due to the fact understood from previous studies, that there is disproportionate burden of anemia in the rural parts of the country.
- Although persistent efforts have been made in the field of female literacy and in the management of anemia, the results have not been commensurate with the efforts. This is evident by the data of NFHS 5 which has shown a 10% increase in childhood anemia since NFHS 4
- There are *multiple barriers* that have been identified with respect to female education viz, poverty, social and cultural norms, gender violence and poor quality of education.

Poor adherence to treatment is another major challenge in the management of anemia in India. Different levels of interventions have been identified to tackle this issue.



Suggested intervening factors

The illustration¹ provides a framework as to the kind of approach that will be needed to boost adherence to the IFA regimen and induce behavioral changes that will improve IFA intake.

1. Sedlander E, Long MW, Mohanty S, Munjral A, Bingenheimer JB, Yilma H, et al. Moving beyond individual barriers and identifying multi-level strategies to reduce anemia in Odisha India. BMC Public Health [Internet]. 2020;20(1):457. Available from: <http://dx.doi.org/10.1186/s12889-020-08574-z>

- There have also been *multiple facilitators* in the fight against anemia:
 - POSHAN Abhiyan: it conducted *Poshan Maah* in September 2021, which had an outreach to over 120 million women, 60 million men and 130 million children.
 - Beti Bachao Beti Padhao scheme has been successful in improving the Sex Ratio at Birth by 16 points between 2014-2020. The Gross Enrolment Ratio of girls in schools has improved from 77.45 to 81.32 during the last six years, since the launch of the Beti Bachao Beti Padhao.
 - Various steps have been taken by the Government to make Anemia Mukta Bharat more effective, viz, coordination with ministries, strengthening supply chain and logistics. Capacity building through National Centre of Excellence and Advanced Research on Anemia Control (NCEAR-A).





Way Ahead...

Strengthening the healthcare infrastructure, including the training of healthcare providers and the provision of diagnostic facilities, can improve the management of anemia. This requires sustained investment in the healthcare infrastructure and the training of healthcare providers.

It has also been found that providing incentives, such as financial incentives, can improve adherence to treatment and reduce the burden of anemia.

The study's conclusions have provided a food for thought for Indian policymakers and public health professionals as it has shed a new light on a new interaction between the three factors.

Another study² has found that there is a direct link between maternal education and the utilization of healthcare services in rural India. This highlights the need for investment in maternal literacy to improve the utilization of healthcare services in rural areas.

The study highlighted the need for integrated interventions that address both education and healthcare access to improve child health outcomes in rural areas.

2. Vikram K, Vanneman R. Maternal education and the multidimensionality of child health outcomes in India. J Biosoc Sci [Internet]. 2020 [cited 2023 May 15];52(1):57–77. Available from: <http://dx.doi.org/10.1017/S0021932019000245>

Further Scope of Research

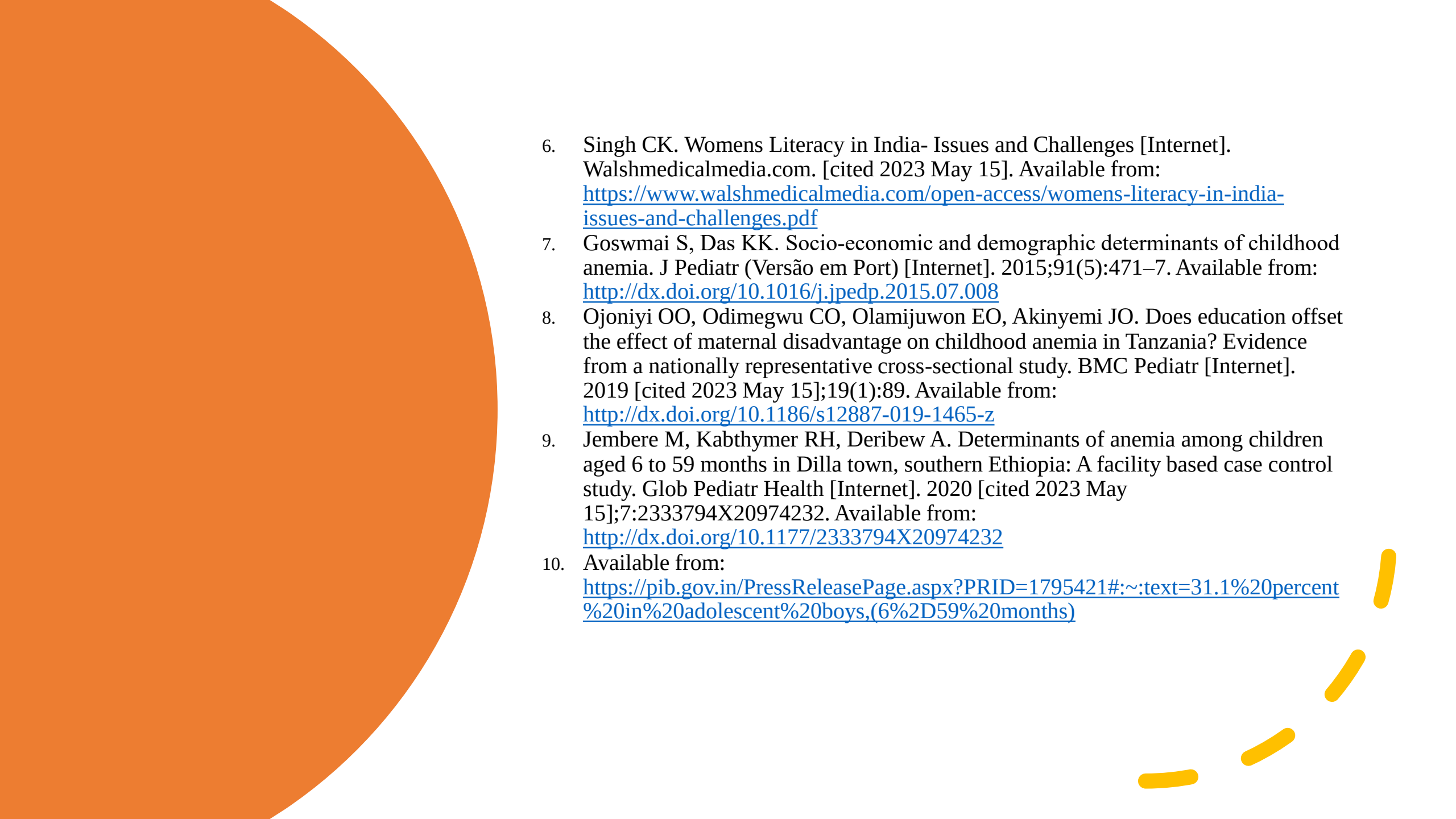
- Further research needs to be carried out which might include conducting a large-scale study which includes both rural and urban population. While NFHS is carried out with respect to both urban and rural population, RHS restricts itself to the rural side. Increasing the frequency of these studies can also provide us with real time information to better equip ourselves. This would provide a more accurate picture of the relationship between female literacy, healthcare accessibility, and anemia prevalence in the entirety of the country.
- These researches may also include an interventional component such as supervised administration of IFA tablets. The above criteria in a longitudinal study will provide a larger picture and guide our policymakers towards the feasibility of different interventions.

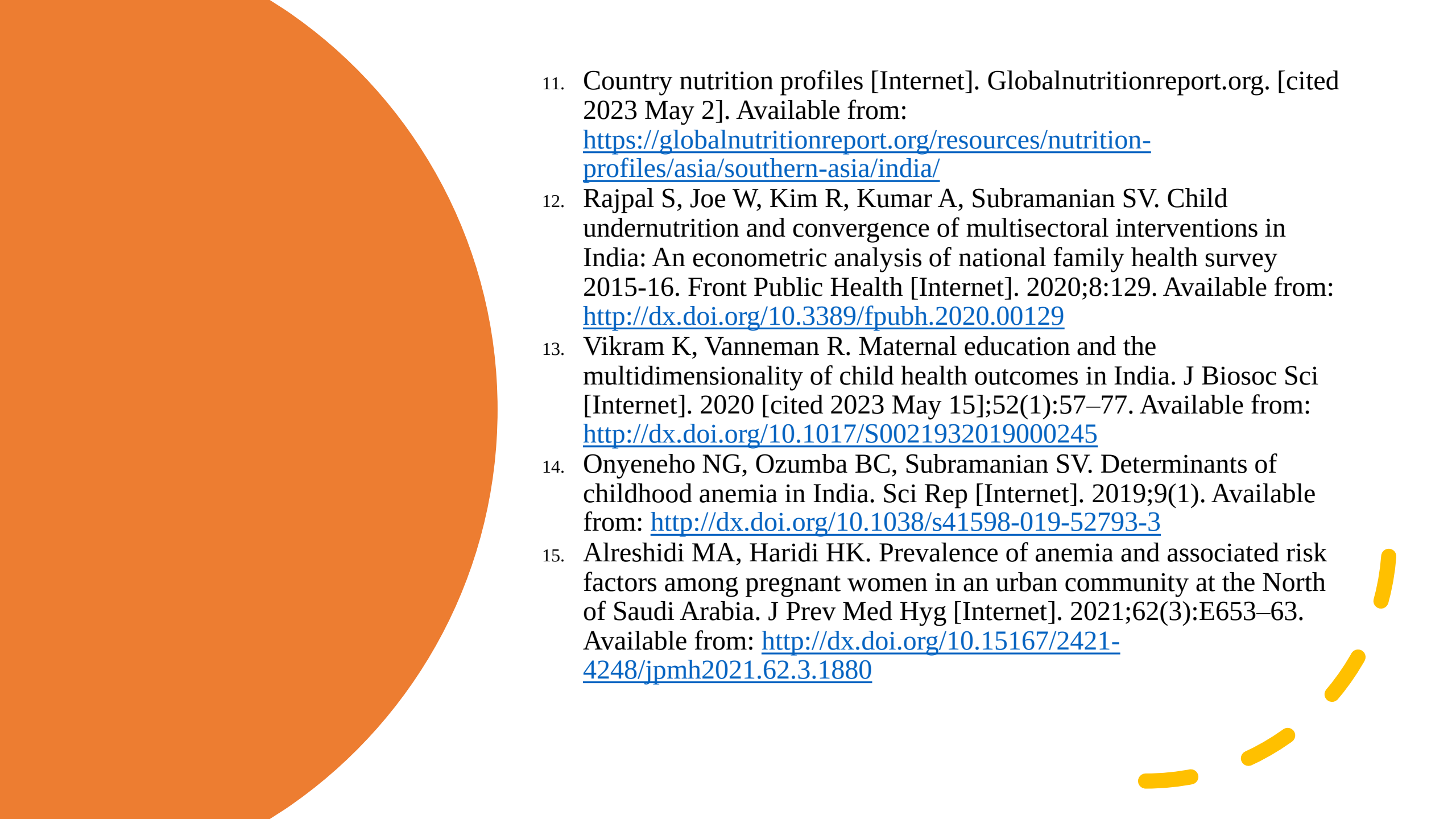


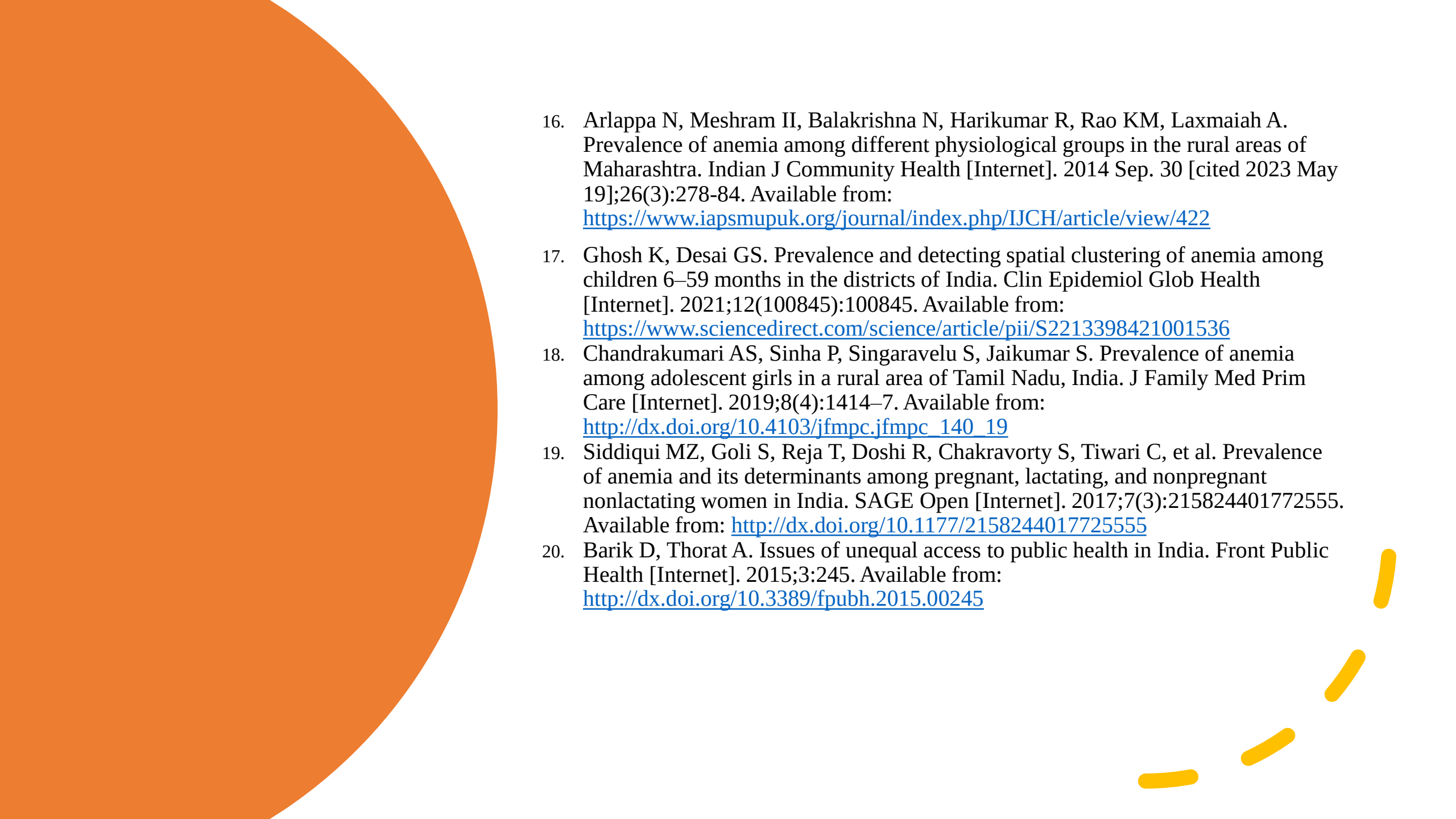
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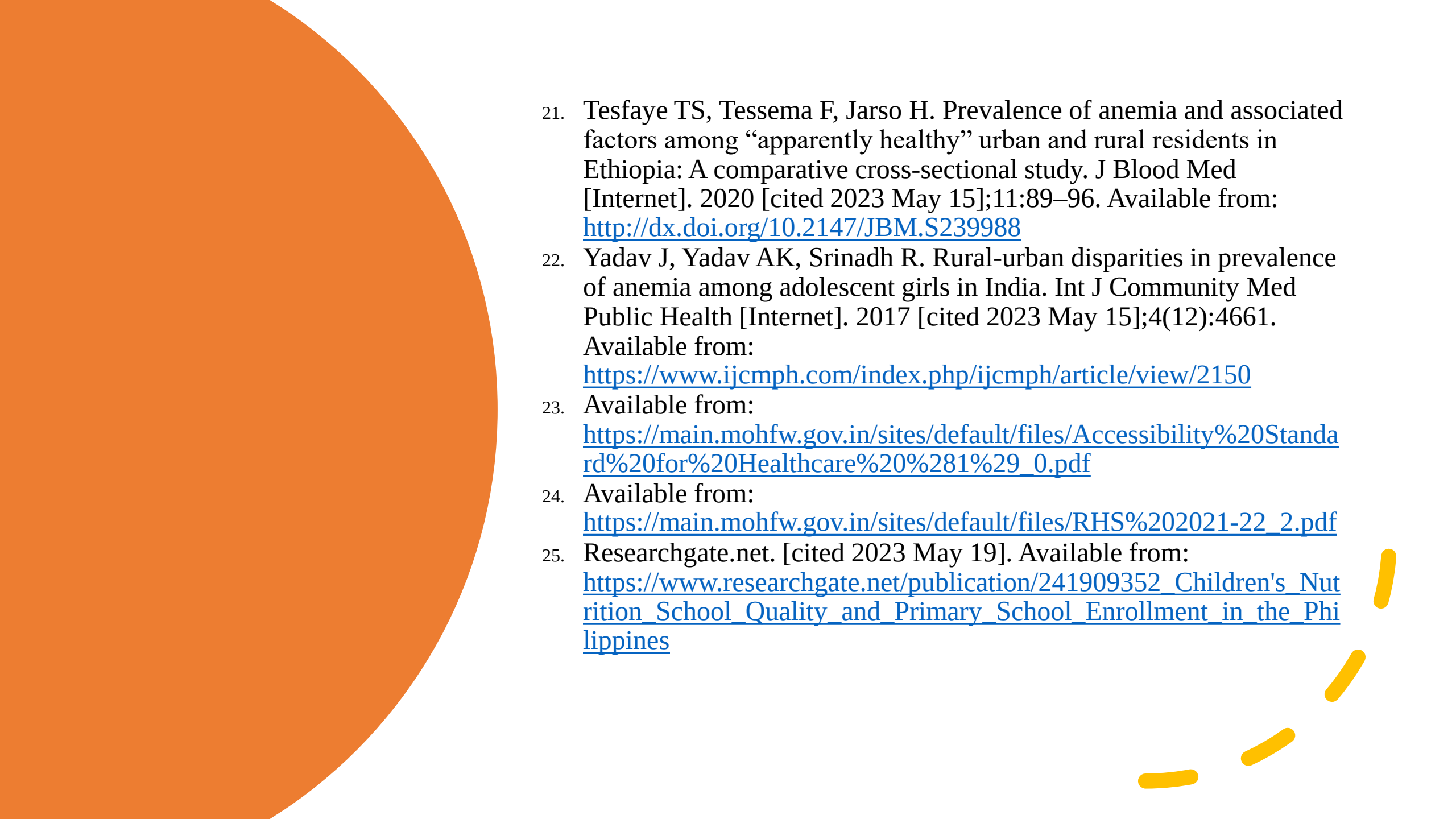
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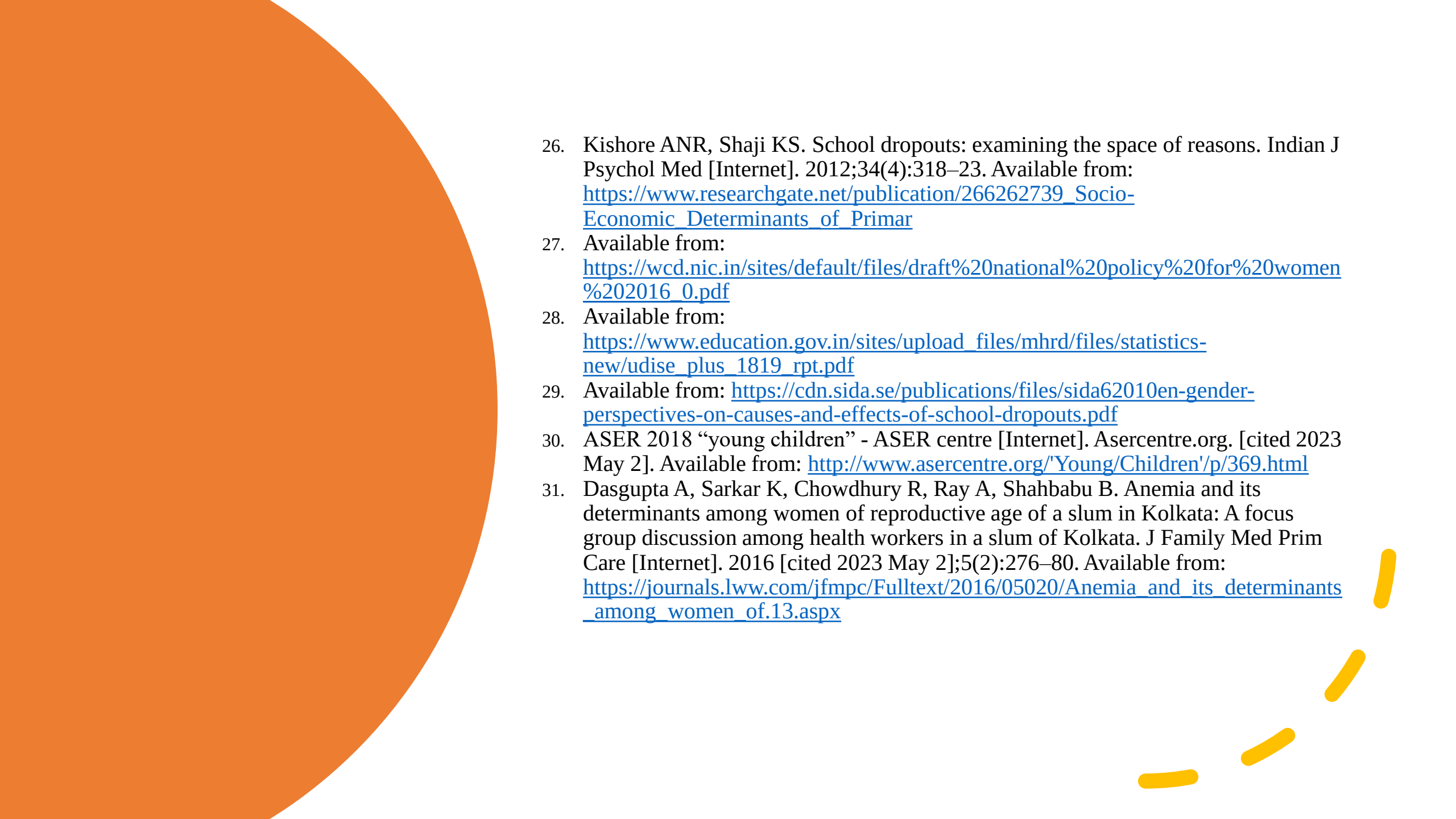


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