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Review

A Review on Shadow of Whitener Addiction - The Science of Suspicion

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

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	Abstract
Published on: 25 Mar 2025	<p>Whitener products, such as correction fluid and markers, contain a combination of solvents, resins, and pigments. These have been used for centuries in a range of industrial and consumer products, including paints, coatings and adhesives. These products fall under the category of aromatic compounds. Whitener addiction is a specific form of inhalant abuse that has become increasingly prevalent among adolescents in recent years. This is due to the presence of solvents (such as hazardous volatile chemicals i.e., like toluene, xylene, ethyl acetate and methyl ethyl ketone), resins, and opacifying pigment (titanium dioxide). These substances can lead to addiction and health issues, and resulting in unpredictable situations. As a pharmacologist, I interested in knowing what are the chemicals playing a key role in addiction, the mechanism of action and the intention to know what materializes in our body. After understanding thoroughly, I as a health care professional decided to give the capable information to the society of public through this review paper followed by keep an eagle eye on [children, students, Orphans and especially female orphans since unhidden victims (unlawful sex and rape incidents) are there in the society] and protect them from the expected and un-expected addiction of whitener.</p>
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	<p>Keywords: Whitener, Volatile chemicals, Toluene, Addiction, Victims, Directorate of Education (DoE), Orphans, Re-habitation Centres.</p>

INTRODUCTION

A correction fluid is an opaque, usually white fluid applied to paper to mask errors in text. Once dried, it can be handwritten or hand drawn upon. It is typically packaged in small bottles, with lids attached to brushes (or triangular pieces of foam) that dip into the fluid. The brush applies the fluid to the paper.

Before the invention of word processors, correction fluid greatly facilitated the production of typewritten documents. One of the first forms of correction fluid was invented in 1956 by American secretary Bette Nesmith

Graham, founder of Liquid Paper^[1]. With the advent of colour paper stocks for office use, manufacturers began producing their fluids in various matching colours, particularly reds, blues and yellows.

Correction fluid copolymer visualized under scanning electron microscopy (SEM). The micro-structural details of the copolymer resin are visible under high magnifications. Correction fluid was applied on a glass base (visible in the bottom-right corner of all SEM images).

The exact composition of correction fluid varies between manufacturers, but most fluids are composed of an opacifying agent, a solvent (or thinner) and an adulterant 'fragrance' to discourage abuse. The opacifying agent^[2] can be composed of a mixture of titanium dioxide, latex, and other polymer resins.

Thinner originally contained toluene, which was banned due to its toxicity. Later, it contained 1,1,1-trichloroethane, a skin irritant now widely banned under the Montreal Protocol on Substances That Deplete the Ozone Layer, and then the slightly safer trichloroethylene. Thinners currently used with correction fluid include bromopropane. Because it contains organic solvents (volatile organic compounds), unused correction fluid thickens over time as volatile solvents escape into the air. It can become too thick to use, and sometimes completely solidifies. Therefore, some manufacturers also sell bottles of solvent as "thinner", a few drops of which will return the correction fluid to its original liquid state.

Organic solvents are psychoactive when sufficient amounts are inhaled. Such solvents are common inhalants for adolescents due, in part, to the fact that they are inexpensive in comparison to other recreational drugs. Use of correction fluid as an inhalant can cause the heart to beat rapidly and irregularly, which can cause death. An unpleasant smell is added to some brands in order to deter abusers^[3]. Companies have worked closely with authorities in order to ensure that all the warnings are duly mentioned on packaging (card and product labels) to inform parents and younger users of the risks associated with inhaling or drinking the fluid. India has imposed a ban on the retail sale of bottled nail polish remover and bottled correction fluid, but permits its sale in devices that provide a small amount of the chemical in a container that dispenses it in a controlled way. However, still the whiteners are selling in the markets illegally and the below figures (figure 1, figure 2 and figure 3) collected from public domain which were really captured from the different locations of the states.



Fig 1



Fig 2



Fig 3

The Ministry of Education also banned its use in schools^[4]. The manufacturer is required to affix a warning regarding the possible adverse effects on health if the material is inhaled.

Mechanism of Action

Whitener contains a combination of solvents (such as hazardous volatile chemicals i.e., toluene, xylene, ethyl acetate, methyl ethyl ketone), resins and opacifying pigment (titanium dioxide) which lead to addiction and health issues and originate in unpredictable situations. Whitener contains hazardous volatile chemicals that can cross the blood-brain barrier lead to damage to nerve cells and create psychic conditions. Inhalant abuse refers to the intentional inhalation of volatile chemical substances, which produce vapours capable of inducing mind-altering effects. These chemical vapours can have diverse physiological effects on the body. When inhaled, they rapidly enter the bloodstream through the lungs and affect the central nervous system (CNS), resulting in various immediate and long-term effects. The specific physiological effects of inhalants depend on the type of substance used.

Toluene is a highly volatile organic solvent present in gasoline. Exposure mainly occurs by absorption via the pulmonary tract and easily reaches the central nervous system, which causes toxic effects. Toluene toxicity has been described but not well established and the expected mode of action is mentioned in the below figure: 4.

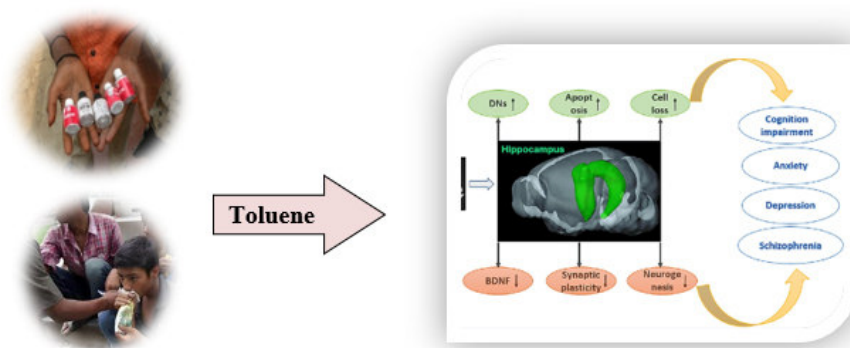


Fig 4: Expected Mode of Action for Whitener Evaporation, Addiction and followed by Produced Toxic Effects.

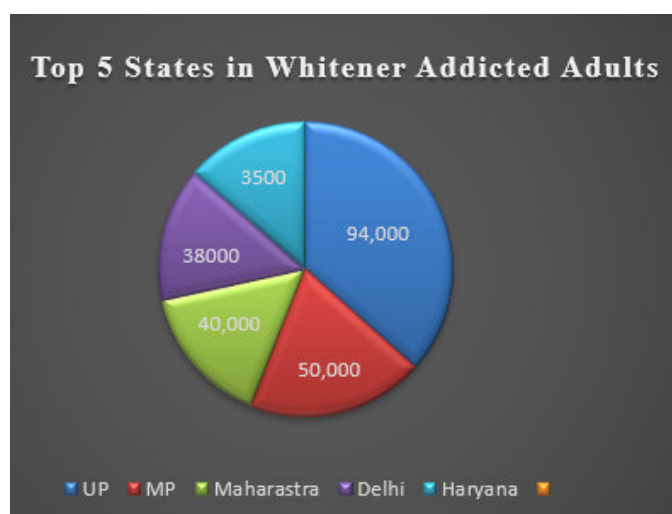


Fig 5: List of top 5 states in whitener addiction

Objectives

- ✓ Share the knowledge on chemicals, which was used in whiteners and create awareness to your kids, and kids where they already addicted at your surroundings.
- ✓ Recognize and take responsibility to join them in government provided re-habitation centres.
- ✓ To prevent unlawful sexual activities on female orphans.

Methods

The following methods are useful to control the whitener addiction.

- ✓ Education and Awareness Campaigns for Adolescents, Parents, and communities
- ✓ Early Intervention and Treatment for those at risk or already addicted.
- ✓ Collaboration between Schools, healthcare providers, and community organizations.
- ✓ Support for families affected by Inhalant abuse and addiction.

Symptoms

The following symptoms were noticed in whitener-addicted peoples.

- ✓ Confusion, Inability to stop or reduce
- ✓ Incidents of violence/hostility
- ✓ Eventually, requiring more of the drug
- ✓ Experiencing withdrawal symptoms if one tries to stop taking the drug
- ✓ Continuing to use drugs regularly despite harm to one's health, work, or family

List of Re-habitation Centres

If anyone struggling with whitener addiction, there was many re-habitation centres available in India. They are dedicated to helping you regain control and find freedom from addiction. Their personalized programs tailored to specific needs, providing a supportive and holistic approach to recovery. The re-habitation centres offer specialized treatment plans to address unique challenges and guide addicted personals towards lasting recovery. The Indian Top addiction centres are listed out and mentioned in the below table and If any whitener addicted personnel's are founded at your surroundings, immediately inform to below centres.

Table 1: Top De-Addiction Centres

Top De-Addiction Centres	Founded	Official Website
Sanctum Wellness	2019	sanctumwellness.org
Rehabs India	2021	rehabsindia.in
Luxury Rehab Finder	2021	luxuryrehabfinder.com
Alpha Healing Centre	2014	alphahealingcenter.in
Lotus Wellness Rehab Centre	2021	lotuswellness.life
Healthcare Tulasi	2002	tulasihealthcare.com
National Institute of Mental Health and Neurosciences (NIMHANS)	1974	nimhans.ac.in
Drug Dependence Treatment Centre	1988	aiims.edu
Nasha Mukti Kendra	2009	nsnashamuktikendra.in
Phoenix Foundation India	2008	phoenixrehabservices.com

Why we have to choose the re-habitation centres?

- ✓ **Specialized Expertise:**
Centres specializes in whitener addiction treatment, ensuring that team has the knowledge and experience to address the specific challenges associated with this type of addiction.
- ✓ **Personalized Programs:**
They offer personalized treatment programs tailored to each individual's unique needs, ensuring that you receive the care and support that best suits you.
- ✓ **Holistic Approach:**
Approach to treatment goes beyond just addressing the addiction itself. They focus on holistic healing, considering the physical, emotional, and psychological aspects of recovery to promote overall well-being.
- ✓ **Comprehensive Support:**
They will receive comprehensive support throughout journey to recovery and dedicated team is committed to guiding every step of the way, providing encouragement, guidance, and assistance whenever they need it.
- ✓ **Proven Success:**
These centres had records of accomplishment of success in helping individuals overcome whitener addiction and achieve lasting recovery.

Testimonial Information

Few case studies, testimonial information mentioned below for real experience gathered from the re-habitation centres^[5].

<p>I'm so glad I found Saran. I have been struggling for the past five years with gambling and drugs. And I was in denial for the longest time that it was a problem. But when I finally came to Saran and started attending their counselling sessions, it was life-changing. Now there are days where I don't even think about gambling or drugs...and that's a big step!</p> <p>Abhijeet Kumar</p>	<p>I was addicted to drugs for over four years, and after a lot of help from my family and friends, I decided I wanted to get clean. It was the hardest decision of my life, and all I had was hope. Then one day, I got an email from Saran Nasha Mukti Kendra. They told me about their services and how they can help drug addicts, alcoholics, gamblers etc, to recover.</p> <p>Krishna Yadav</p>	<p>Saran Nasha Mukti Kendra is one of the best rehabs in the country. I struggled with addiction for six years, but after going to Saran Nasha Mukti Kendra, I could break my addiction pattern and find peace of mind. They have a crystal clear understanding of all the rehabilitation methods, and they use them with grace and ease. It's been six months since I left, and now I'm feeling much better.</p> <p>Rohit Kumar</p>
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CONCLUSION

Inhalant abuse and whitener addiction among adolescents pose significant consequences for physical and mental health, families, communities, and society as a whole. To tackle this critical issue, a comprehensive and coordinated approach is required, encompassing education, prevention, early intervention, treatment, collaboration, and support. As policymakers, healthcare providers, educators, parents, and community members, we bear the responsibility of preventing inhalant abuse and whitener addiction among adolescents.

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