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## Use of home remedies and traditional medicines for the treatment of common Eye ailments in Pakistan: a qualitative study

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# Use of Home Remedies and Traditional Medicines for the Treatment of Common Eye Ailments in Pakistan: A Qualitative Study

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**Purpose:** Qualitative studies focusing on the use of home remedies and traditional medicines for eye health are lacking. We explored the use of eye remedies and traditional eye medicines (referred to hereafter as “eye remedies/TEM”) in Pakistan’s Abbottabad district.

**Material and Methods:** We conducted face-to-face key informant interviews with 16 teachers (8 men, 8 women). Participants were asked to list eye remedies/TEM used in their home or in areas where they lived. They were also asked to specify conditions for which each one of them is used. Their responses were noted manually and the interview scripts were translated from Urdu into English. A content analysis of the transcripts was carried out to identify the main themes arising from the interviews.

**Results:** Eye remedies/TEM were popular with the participants and in areas where they lived. 18 eye remedies/TEM were identified, the majority of them being used to treat irritable, red eye. The most frequently mentioned symptom necessitating eye remedies/TEM was burning or itching, followed by redness, watering and pain, and swelling. One participant noted his family uses goat’s milk diluted with water to treat red, dirty and discharging eyes in newborn babies. Other main themes were the use of remedies/TEM particularly surma (kohl) to “sharpen the vision” and to “enhance the appearance of the eyes”.

**Conclusions:** Our study provides evidence of the use of eye remedies/TEM in Pakistan. Future studies should look at the safety and efficacy of these therapies, the frequency of use in a large population and explore if these therapies are used together with, or in place of, conventional medicine. The practice of putting goat's milk in eyes of newborn babies with red, dirty and discharging eyes must be discouraged.

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Home remedies include using foods or other household items to prevent and treat illness or maintain well-being whereas traditional medicines are defined as "health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being."<sup>1</sup> They are used worldwide, particularly in developing countries where one-third of the population still lack access to even essential medicines. While it is important to ensure the safety of all home remedies, particular attention needs to be paid to the ones used for eye health because eyes are delicate and a great care is needed to avoid visual loss, blindness and other eye morbidities. There have been increasing concerns that some traditional therapies may be harmful to the eye.<sup>2-6</sup> For example, in Africa, it is a significant cause of corneal blindness, particularly among children.<sup>7</sup> In many cases even if home remedies and traditional eye medicines are benign, using them may result in delay in seeking appropriate care.

A few small studies<sup>8-11</sup> have shown that home remedies are popular in Pakistan, a country with a population of 156 million and where a sizeable population lack access to allopathic medicines. However, there are no studies specifically focusing on the use of home remedies and traditional medicines for eye health in the country. We report the findings of a qualitative study that explored the use of remedies and traditional medicines for eye health (referred to hereafter as "eye remedies/TEM") in Pakistan's Abbottabad district.

## MATERIAL AND METHODS

This qualitative study was part of a wider study in which we were exploring the knowledge and

perceptions of eye conditions and their treatment among school children and their teachers.

We interviewed 16 teachers (8 men, 8 women) one-on-one to identify eye remedies/TEM used in their homes or in areas where they lived. Their mean age was 31.8(range: 21-59) years and they had an average of 8 years teaching experience (range: 6 months-22 years). They taught grade 4-5 children in primary schools in the Abbottabad district in northern Pakistan and the majority of them (10 of 16) were graduates (Table 1).

**Table 1 Characteristics of interviewees**

S. No	Age	Sex	Qualification	Work experience (years)
1	27	M	Bachelor of Arts	3
2	40	M	Bachelor of Arts	22
3	23	M	Bachelor of Arts	3
4	25	M	Bachelor of Arts	4
5	32	F	Bachelor of Science	10
6	59	F	Bachelor of Science	18
7	27	F	Bachelor of Science	3
8	26	F	Master of Science	3
9	35	F	Matric	19
10	32	F	Matric	9
11	28	F	Matric	9
12	33	F	Faculty of Arts	16
13	24	M	Bachelor of Science	1
14	26	M	Master of Science	1
15	21	M	Bachelor of Science	< 1

16	51	M	Bachelor of Arts	8
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There are four main types of schools in Pakistan: Government school for boys, government school for girls, private school for boys, and private school for girls. One school each was selected from these categories based on easy accessibility. In each school, 4 teachers were selected also based on convenience. One of us (KA) conducted all the interviews. Interviewees were asked in Urdu the following questions: What home remedies and traditional medicines do you know of that can treat eye diseases or improve eye health? Please specify eye conditions in which each one of them is used in your home and the area where you live. Participant's responses were noted manually during the interviews. The scripts were translated from Urdu into English and analyzed. A content analysis was performed to identify the main themes arising from the interviews. Important quotations were selected from the narrations to exemplify the major categories.

## RESULTS

Eye remedies/TEM were popular with nearly all the participants and in areas where they lived.

Interviewees listed a total of 16 eye remedies/TEM, their method of application, and the conditions for which these are used. Surma (kohl) was mentioned most frequently and used for the greatest number of conditions, ranging from sharpening of vision to treating redness, watering, burning and itching. Other common eye remedies/TEM mentioned included rose water, honey, cold water splashes, alum and ice. Surprisingly, one participant stated she had never seen them being used: "I do not know anything about them." We identified the following main themes (Table 2) arising from the interviews:

### Irritable, red eye

The main theme that emerged from the interviews was that the majority of the eye remedies/TEM are used to treat irritable, red eye, with burning or itching being the commonest symptoms. This was followed by redness, watering and pain, and swelling: "For minor eye diseases such as burning, itching, watering, redness, and when the colour of the eyes is not normal, I mean when it is red, surma (kohl) is useful. If there is any injury to eyes, you put salt in water and

the eyes are washed with it. If there is minor injury to the eyes, ice is placed on them (eyes). Ice is also useful when eyes become red after exposure to heat." Several participants reported they also use rose water, hot fomentation, and honey. As one participant stated, "we also use rose water to treat watering, and for pain control. For adults with burning and painful eyes, a piece of cloth is heated to apply hot fomentation. In case of chronic pain or burning that is temporary in nature, drops of honey are placed into the eyes." Some used alum to treat these symptoms. Five participants mentioned "splashing water into the eyes" as a good way to remove minor irritants or relieve burning.

### Red, dirty and discharging eyes in new born babies and children

Most participants believed that eye remedies/TEM for adults can also be used by children. One male participant put it, "If children's eyes are burning, small cubes of ice are put in a piece of cloth and cold compresses are applied intermittently. A cold wash cloth over the eye relieves pain. If the eyes are discharging, they are cleaned frequently with a handkerchief."

A female interviewee noted that if a mosquito flies into the eye, or a long fingernail damages the eye accidentally, one should avoid rubbing them. "We apply hot compresses to the closed eyelid. If we can not treat it, we take the child to the doctor because if it [an eye] goes, it goes". One interviewee noted that his family uses goat's milk diluted with water to treat red, dirty and discharging eyes in new born babies.

### Better vision

Another common theme was the use of eye remedies/TEM such as surma and peppers "to sharpen vision". Nearly half interviewees reported using surma for this purpose. A participant revealed that he and his family "use surma to keep vision sound and see clearly" A third of them said that vegetables, especially carrots were necessary for good vision.

### Better appearance of eyes

A very common theme was the use of eye remedies/TEM for enhancing the appearance of the eyes, making them look more prominent. Nearly all interviewees reported the use of surma in their homes as well as in their respective areas: "Black surma beautifies eyes". One female participant said children

should avoid using surma because it causes infection. A few of them noted that honey and olive oil stimulates eyelash growth.

## DISCUSSION

To our knowledge, this is the first qualitative study that specifically focuses on eye remedies/TEM in a developing country. A total of 16 eye remedies/TEM were reported being used to treat irritable red eye, improve vision and enhance the appearance of the eyes.

Red eyes are very common in developing countries (including Pakistan) and can be due to a variety of causes. Our study shows that it is the commonest eye condition treated with eye remedies/TEM. While an evidence base on the safety and efficacy of these therapies is lacking, individuals with red eyes that are not improving after three days of onset of symptoms must be referred to an eye physician. Individuals with red eye(s) presenting with decreased vision and/or severe eye pain need immediate referral because the condition may be due to potentially sight threatening causes (e.g. raised

**Table 2: Themes related to home remedies and traditional medicines for eye health**

Theme	Remedy/TEM	Examples
<b>Red, irritable eye</b> Redness Burning Itching Watering Pain Swelling Soothing Foreign body/foreign body sensation	White surma Black surma Rose water Honey Ice Chilled water Alum Saline Hot fomentation Paste of turmeric and black tea Boric acid Desi Ghee (Butter Oil) Tripla's extracts	<p>"White surma offers a cooling sensation to eyes. Black surma is used to treat burning eyes. A foreign body in the eye is removed by washing the eye with water slowly. Putting ice on eyes gives relief to burning eyes."</p> <p>"We use black surma to treat redness. White kohl is used to treat swollen and burning eyes" Alum is dissolved in water and then eyes are bathed with it. This relives pain."</p> <p>"Black peppers are good for the treatment of burning eyes. Ice is used to treat burning, and surma to treat watering, and swelling. Turmeric and black tea are mixed, liquefied. This paste should be put in a piece of cloth which is applied as a bandage to the eyes. We apply it at night and is used to treat swelling and burning. Eyes should not be open when placing the bandage."</p> <p>"Eyes are splashed with cold water if red chilles goes into them or if they are burning."</p> <p>"If something hits the eyes, hot fomentation is done."</p> <p>White surma relives burning. It also stops watering. If the eye is painful and reddish, we use rose water."</p> <p>"Rose water is used [to treat] burning eyes, kohl is used to treat dirty, watery eyes, and the sensation, like sand being in the eye. Cold water splashes into the eyes give them cooling sensation. Pure honey put into eyes daily keeps eyes clean. Extracts of medicinal plant tripla is mixed with water and then used to treat red and swollen eyes. Desi ghee is applied to the eyelids when the eyes itch. In the morning when the eyes are sticky, we wash them thoroughly with boric acid. ."</p> <p>"We use surma because it relives pain completely. Rose water cures red eyes. For tired eyes, we wash them with chilled water."</p> <p>"The remedy for burning eyes is honey. We put it in eyes. For burning, painful or itchy eyes, surma is used. When eyes are painful, people also use rose water."</p> <p>"For burning rose water or surma is used."</p> <p>"If there is a minor injury, we use surma."</p> <p>"Alum is dissolved in water and if eyes are painful or have white discharge, they are washed with it."</p>

<b>Red, dirty and discharging eyes in new born babies</b>	Goat's milk diluted with water.	"We add water to goat's milk and then red, dirty and discharging eyes of newborn babies and others less than one year of age are washed out with it."
<b>Vision</b>	Black surma Black peppers	"Black peppers taken with water....ensures good vision." "Surma is used to sharpen the vision of children." "Surma keeps vision clear and sharp." "Black surma is said to keep vision sharp." "We use surma because it sharpens the vision."
<b>Better appearance</b>	Black surma Honey Olive oil	Surma is used to make eyes look prominent." "Honey and olive oil are used for better growth of eyelashes. Black surma makes eyes look beautiful."

intraocular pressure or inflammation) and any delay in treatment due to the use of eye remedies/TEM can lead to visual loss. In Africa, harmful TEM (e.g. the use of urine infected with gonococcus) can result in the destruction of the cornea and thus irreversible blindness<sup>2-6,12</sup>. Red eyes without photophobia, pain, or visual disturbance is most commonly a result of infection or allergy<sup>13</sup>. A related symptom is itching which is the distinguishing feature of allergic eye disease. In general, a red eye in the absence of itching is not caused by allergic eye disease<sup>14</sup>. It is important to mention that in most situations, lay people cannot distinguish between different eye diseases that result in a red eye and examination by a trained eye worker or ophthalmologist would be useful.

A burning sensation in the eyes was the commonest eye symptom for which eye remedies/TEM were used. While there is no harm in applying a cool compress, splashing water into the eyes is a potentially harmful practice because it may introduce infection. Attention should also be paid to make sure that any solution put into the eye is sterile. Burning can result from a variety of reasons such dry eyes, some drugs, and exposure to bright sunlight, smoke, cosmetics, chemical fumes, and pollen. It is always important to identify the source of burning, and then avoid it if possible.

One respondent said that goat's milk diluted with water was put into the eyes of newborn and infants to treat redness and discharge. This practice should be discouraged. Red, discharging eyes during the first 28 days of life is called ophthalmia neonatorum and, if due to gonococcus infection, can lead to blindness<sup>15</sup>. There are several options for preventing this condition including instilling antiseptic or antibiotic eye drops or ointment at birth.

Another common theme was the use of eye remedies/TEM "to sharpen vision". It is encouraging

to note that a third of participants deemed the use of vegetables, especially carrots to be necessary for good vision. Carrots and dark green leafy vegetables are good sources of vitamin A, which plays a critical role in light transduction in the retina, and which is needed to prevent the potentially sight threatening changes of xerophthalmia<sup>16</sup>.

The main limitation of our study was the relatively small sample size, with all participants working in a single profession. Ideally, similar studies in future should include a wider variety of groups such as traditional healers, eye care workers, patients with eye diseases, and individuals without eye diseases. Another limitation of our study was that several aspects of eye remedies/TEM including the frequency and reasons for the use were not explored<sup>17</sup> nor were perceptions of their safety and efficacy.

We conclude that there is evidence of the use of eye remedies/TEM in Pakistan. Research is needed to assess the safety and efficacy of these therapies, to explore the frequency and determinants of their use in a large and diverse population, and explore if these therapies are used together with, or in place of, conventional medicines. The practice of putting goat's milk in eyes of new born babies with red, dirty and discharging eyes should be discouraged.

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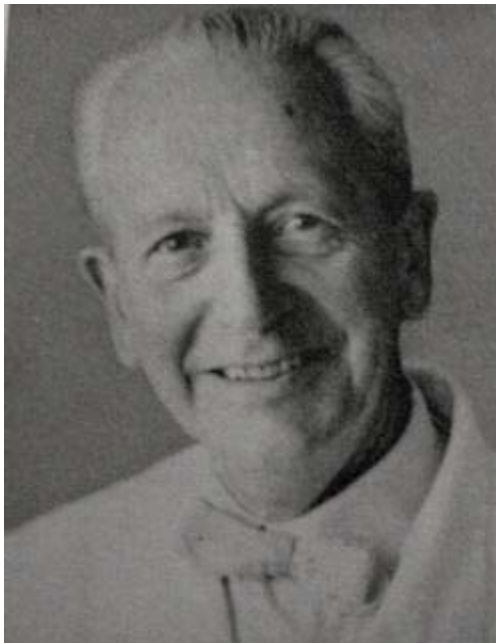
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## Guess Who Answer



**Marc Amsler**

Swiss ophthalmologist, born 1891, died 1968.



Marc Amsler was a student of Jules Gonin at the University of Lausanne and an exponent of Gonin's ideas about retinal detachment repair. He succeeded Gonin in 1935 as chair of ophthalmology at Lausanne, and in 1944 became professor at the University of Zurich. He pioneered in the study of aqueous humor in uveitis and developed an interest in how to monitor macular symptoms in retinal disease. It seems likely that Amsler got the idea for his patterns from a small card with a grid pattern that Landolt designed to place in the center of his perimeter to test the macula. Several devices had been invented and Swiss ophthalmologist who was a resident with Amsler in Zurich, has written that he was actively designing the grids in the period between 1944 and 1952. Huber states that Amsler was "the first to draw attention to the possibility of this test which still today fortunately has kept its value in a wonderful way."

manufactured by the first half of the 20th century for the testing of small macular scotomas, but these required an examiner to move tiny test objects across the grid, sometimes within a stereoscope for greater precision. These instruments were not so easy to use, and of course did not document metamorphopsia. Landolt may have intended to describe his test card in print, but he never did, and his plans for the card are not known. It appears to have been Amsler's idea to take the grid out of the perimeter and use it as an independent test and in doing so Amsler experimented extensively with different patterns and different colors of grid design. The authors of one article have stated without references that Amsler was working on grids as far back as the 1920s, but Alfred Huber, a renowned

**Amsler grid** = Chart used to detect or document macular diseases

**Amsler's sign** = Haemorrhage caused by applanation tonometry and cataract surgery in Fuch's heterochromic iridocyclitis (FHI). It was once thought to be pathognomonic for FHI, was previously used as a diagnostic and confirmatory test in patients with suspected FHI

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