

A study of the management of head lice by paediatricians in Malta

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ABSTRACT

Head lice infestation is a condition found in every country in the world about which it is important to have proper education and awareness. This study aimed to examine the treatment of head lice and the education given to the patient and their parents from the paediatrician's point of view.

A questionnaire consisting of multiple choice questions and a covering letter was sent by post to all the paediatricians that were registered in Malta's specialist register as of May 2014. Guidelines from the UK and America were used to draw up this questionnaire.

According to 80% of the paediatricians who replied, the majority of the patients seek help from the pharmacist or the family doctor. Just over 50% prescribe permethrin; however, under the age of 2 years, a non-neurotoxic agent (dimethicone) is what 37% of paediatricians prefer to prescribe followed by permethrin (28%). Shampoo is the form of application that Maltese paediatricians prefer to use.

Fifty-five per cent of those that replied to the questionnaire think that there is no product suitable for the prevention of head lice. Forty-three per cent think that re-infestation occurs in over 30% of patients. If re-infestation occurs, half would prescribe the same treatment as before while the other half would prescribe a different class. Only 5% ever prescribed oral treatment.

Less than 1 out of 10 patients present with head lice to paediatricians and the majority are over 4 years of age. Forty-seven per cent advise that the child should keep on going to school.

It was concluded that the absolute majority of paediatricians are well informed about the treatment and the advice that needs to be given. The authors recommend that a patient awareness campaign is to educate the parents and make them aware of head lice. A survey among pharmacists and family doctors could also be carried out.

INTRODUCTION

As described by Maunder (1983) head lice do not fly and spend their life cycle on one host. Maunder (1983) describes head lice as having short legs explaining why they cannot jump or walk properly on flat surfaces. Maunder (1983) also confirmed that head lice are more a cosmetic problem and are not considered by many as a medical threat. Secondary infections are rare and they only result from scratching. Although the condition is not a serious medical threat, it still has a significant impact on the life of the child and their parents.

The incidence of head lice varies from country to country. According to Frankowski & Bocchini (2002) in America there are around 9 million patients a year, while in Europe according to Durand et al. (2007), Volcsik et al. (1990) and Ciftci et al. (2006) the incidence varies from 0.8% and 9.9%. The authors know of no study in Malta that can shed light on the incidence of head lice in our population.

Many treatments are available to eradicate the head lice; unfortunately these treatments do not act on the eggs. Wet combing can be used for the eggs, but perseverance is needed as this needs to be done over a number of days. Broad et al. (2012) explains that using a hair dryer is as effective as wet combing of the eggs; however it will have limited effect on the hatched lice.

Lack of proper diagnosis, incorrect treatment, dose and duration can all lead to treatment failure and resistance as has been mentioned in recent years by Tebruegge et al. (2011).

The authors hypothesised that education for the patients and continuous updates to the healthcare providers might ensure proper diagnosis and treatment. The aim of this study is to obtain the paediatrician's perspective of the ideal treatment for head lice and to assess the knowledge that paediatricians in Malta have on the condition.

METHOD

Following extensive literature review of guidelines from the UK and America, a questionnaire was set up consisting of 14 multiple-choice questions. A pilot study was done to assess its validity. From the pilot study it was concluded that 3 questions were not too clear and therefore had to be rephrased. The questionnaire was designed to take not more than 15 minutes to fill.

Once the questionnaire was ready it was submitted in May 2014 to the Chairman of the Department of Child and Adolescent Health at Mater Dei Hospital, Malta who gave his go ahead for the questionnaire to be sent to all the paediatricians on the specialist register in Malta. As this study did not involve research on human subjects, there was no need for approval to be obtained from a research ethics committee. The questionnaire was sent by post with an attached letter explaining the reason for the questionnaire and a self-addressed envelope to make it easier for the responder to send back the filled questionnaire and also to ensure anonymity. Four weeks was the deadline that was set for the questionnaire to be returned back to the authors. The questionnaire was written in English since all the paediatricians in Malta are literate in this language, and therefore there was no need to translate it into the Maltese language.

The software programme Microsoft Excel was used to collect and analyse the data collected.

RESULTS

Fifty per cent of the paediatricians filled and returned the questionnaire. According to 80% of paediatricians the majority of the patients seek help from the pharmacist or the family doctor for the management of head lice. Just over 50% of the paediatricians prescribe permethrin while one paediatrician suggested the use of malathion in alcohol which is unavailable in Malta. However, for patients under the age of 2 years, a non-neurotoxic agent (dimethicone) is what 37% of paediatricians prefer to use, while 28% of respondents still prefer permethrin.

Shampoo is the form of application that the Maltese paediatricians prefer to use, followed by creams, gels and foams. The paediatricians that filled the questionnaire stated that if the right product is used there is no need to repeat the treatment. Fifty-five per cent of those that replied to the questionnaire think that there is no product that is effective for the prevention of head lice. Forty-three per cent think that re-infestation occurs in over 30% of the patients and 60% of the paediatricians think that this is caused by re-infestation in the community not due to resistance or due to inadequate treatment.

The paediatricians are split in half when it comes to the treatment of the patients when re-infestation occurs. Half would prescribe the same treatment as before while the other half would prescribe a different class. Only 5% ever prescribed oral treatment for head lice.

Head lice is not a common condition that the paediatrician in Malta treats. Less than 1 out of 10 patients present with head lice to the paediatrician. The majority (53%) of responders stated that the majority of patients that present with head lice are over 4 years of age and the remaining 43% of the paediatricians stated that those that they normally treat are between 2-4 years of age.

All the paediatricians (100%) offer advice to the parents of the child such as to pull back the hair and keep it healthy and well-conditioned or cut the hair very short. Another piece of advice given was to keep an eye open for head lice, so to be able to detect the problem as early as possible and avoid close head contact. Nearly half (47%) of the paediatricians give advice that the child should keep on going to school while 28% disagree.

DISCUSSION

Help and advice

Forty-two per cent of the paediatricians that replied to the survey stated that the majority of the patients will seek help from their pharmacists. However 38% of them also mentioned the family doctor as the health care provider that the parents also seek help from. This is higher than other countries as described by Doulgeraki (2011), Counahan et al. (2007) and Silva & de Aguiar (2008), the reason perhaps being that the family doctor in Malta might be easier to access than other countries.

Giving the right advice to the parents is a top priority when it comes to the treatment and prevention of head lice. This is mentioned in the majority of the literature reviewed and by the responders of this questionnaire.

Treatment with insecticides

According to the American Academy of Paediatrics' guidelines (Page, 2014), 1% permethrin should be used as first line, while other guidelines such as the Scottish guidelines (Scottish Executive Health Department, 2003) just recommend insecticide lotions with no reference to any particular ingredient. From the questionnaire it results that the paediatricians in Malta follow the American guidelines when it comes to prescribing a treatment for children over the age of 2. Dimethicone is perceived by the paediatricians in Malta as safer

than permethrin which is the reason given why under the age of 2 the majority of the paediatricians in Malta prescribe dimethicone. For children under 2 years of age dimethicone could be a good alternative, because it has no odour, it is not toxic and well tolerated by patients aged 6 months and older as concluded by Pickering et al. (2009) and Broad et al. (2012). Dimethicone works by covering the head lice to cause suffocation therefore it is not pediculocidal nor ovocidal. However permethrin is still widely used by the responders in patients under the age of 2.

UK guidelines as described by Broad et al. (2012) recommend malathion as the treatment of choice for head lice; however this treatment as pointed out by one of the respondents is not available in Malta. Between 2011 and 2012 the U.S. Food and Drug Administration approved 2 new topical treatments for head lice: spinosad (Natroba) topical suspension 0.9% and topical ivermectin lotion (Sklice) (Skerrett, 2012), which no paediatrician mentioned in the questionnaire and both of which to date are not available on the Maltese Islands.

Other treatment forms

Only 24% of the paediatricians that took part in the questionnaire highlighted wet combing as their first preference for the removal of head lice under the age of 2 years. It is important that if paediatricians advise the use of wet combing, the paediatrician needs to show the parents how it is done as clearly stated by Hill et al. (2005).

Regarding other treatment options, no paediatrician that took part in the survey suggested the use of drugstore products such as coconut extract, essential oils or tea tree oil. This might be because there are not enough studies to show their efficacy and safety as concluded by Frankowski & Bocchini (2010). According to the results from the questionnaire, oral treatment is rarely prescribed which correlates well with the literature reviewed.

Re-treatment and treatment failure

Another result arising from the questionnaire was that 50% of the paediatricians advise re-treatment for all topical medications, ideally on day 7–9, as many experts such as Frankowski & Bocchini (2010) suggest. Improper timing of the second application of pediculicides should be considered an important cause of treatment failure.

Resistance to the standard treatment of head lice is increasing as stated by Pariser et al. (2012). However, as perceived by the paediatricians interviewed, there does not seem to be a great concern clinically as 43% of

those interviewed stated that re infestation rarely occurs while 38% stated that re-infestation occurs in 10% or less. During the literature review, the authors could not find any figure to define the percentage of re-infestation in children.

The absolute majority of the paediatricians surveyed believe that re-infestation is due to a re-infestation in the childhood community. It is important to note that to have re-infestation, head lice have to be detected approximately 48 hours after stopping the treatment. It is also important to take into consideration what Broad et al. (2012) have stated, that for the treatment to be considered as failed, two applications 7 days apart need to have already been applied.

The reason for resistance can be due to a number of reasons, such as lack of compliance, under dosing or inappropriate duration of treatment. A number of different treatment approaches are being suggested to try and avoid treatment failure. A strategy that has been suggested by Pickering et al. (2009) and Broad et al. (2012) is the use of one particular product for a full-course and, if the treatment fails, this is followed by a second complete cycle of treatment of a different class from that used previously. Only 31% of paediatricians interviewed used this approach. The majority (60%) will prescribe the same treatment.

Limitations of study

One limitation that the authors encountered is their lack of awareness of any another study carried out about the knowledge, advice and the treatments that paediatricians give to patients suffering from head lice in Malta. Also no data was found on the incidence of head lice in Malta. Therefore the information gathered was entirely from international studies.

Another limitation of the study was that, since the majority of patients with head lice prefer to seek advice from the pharmacist or family doctor, these should have been included in the study.

Fifty per cent of the paediatricians filled and sent back the questionnaire. Although 50% is a very good response rate, it may be said that the other 50% who did not respond could have done so because they are less updated on the management of head lice compared to those who took part in the questionnaire.

CONCLUSIONS

Head lice infestation is a condition that is normally not seen by a paediatrician in a hospital or government health centre setting where paediatric services are given

free of charge. This could be the reason why the majority visits the family doctor or pharmacist as the latter are more readily available and the consultation is free from a pharmacist or if the family doctor works in a government health centre.

From the survey it was concluded that the absolute majority of paediatricians are well informed about the treatments and the advice that need to be given. Since paediatricians seem to be well informed one can educate more the parents, teachers and school nurses on head lice so as to facilitate an improvement in management in the community setting. Moreover a patient awareness campaign is recommended to educate the parents and make them aware of head lice. A survey among pharmacists and family doctors could also be performed since, according to this study, more patients seek help for head lice from them rather than from paediatricians.

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