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The Effects of Interventional Health Education on the Conditions of Hairdressing Salons and Hairdressers Behaviors

Mohammad Nassaji [1]; Shahin Kamal [1]; Raheb Ghorbani [1,*]; Mahnaz Moalem [2]; Batool Karimi [1]; Hossein Habibian [2]; Abbas Daraei [2]; Gholamreza Irajian [3]; Masoud Bidokhti [2]; Rahmane Fotohi [2]; Saeed Haghighi [2]; Soheila Ghazavi [2]; Mashallah Kolahdoz [2]; Sakine Sayadjoo [2]; Ali Kermani [2]; Jamile Mehdizadeh [2]

[1]Research Center for Social Determinants of Health, Semnan University of Medical Sciences, Semnan, IR Iran
[2]School of Medicine, Semnan University of Medical Sciences, Semnan, IR Iran
[3]School of Medicine, Department of Clinical Microbiology, Iran University of Medical Sciences, Tehran, IR Iran

*Corresponding author: Raheb Ghorbani, Research Center for Social Determinants of Health, Department of Community Medicine, Faculty of Medicine, Semnan University of Medical Sciences, 5th Km Damghan Road, Semnan, IR Iran. Tel: +98-2333654367, E-mail: r_ghorbani@semums.ac.ir, ghorbani.raheb93@gmail.com

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Background: There are many hazards in the hairdressing industry that may result in illness or injury for both workers and clients, with new or inexperienced apprentices being at greater risk.
Objectives: The aim of this study was to evaluate the possible effects of an interventional education program for hairdressing employees.
Materials and Methods: This study was carried out on 139 hairdressing salons situated in Semnan, Iran from 2006 to 2007. The condition of the hairdressing salon and behaviors of hairdressers were evaluated by a questionnaire before and after the administration of the educational intervention program. Hairdressers participated in various health-educational modules with in-depth knowledge on all relevant aspects of hairdressing conditions and occupational safety behaviors and preventive measures.
Results: The findings revealed a significant improvement in most items especially for environment of salons, use of personal instruments, waste disposal, safety and healthy behaviors of hairdressers ($P < 0.05$). No significant difference was found for the items of washing systems ($P = 0.725$), and doors and windows condition ($P = 0.267$) before and after the intervention. When comparing behaviors between women and men salons, all items significantly improved in women. Men did not show significant improvement in items of hand washing ($P = 0.265$), use of garment ($P = 0.21$), and disinfection ($P = 1.00$) and sterilization procedures ($P = 1.00$).
Conclusions: The intervention was successful in improving most aspects of hairdressing. In women, safety and healthy behaviors were affected more than men. However, in men salons, environmental and physical conditions had greater improvement. We suggest that health educational programs for hairdressers should be integrated into their training course.

Keywords: Education; Intervention Studies; Health, Behavior

1. Background

Hairdressing is an occupation with a long history. There are records of hairdressers among the Egyptians that date back as far as 5000 years B.C. The late 19th century and the early 20th century heralded the era of new discoveries in the field of organic chemistry, which also affected hairdressing (1).

Hairdressing has increased in popularity over the last few decades around the globe due to increases in personal income and peer pressure mainly among young people to conform to the latest hair fashions, generally initiated by sporting and film celebrities. Cumulative personal visits by individuals to hairdressing salons and barber shops extend into millions per annum in the United Kingdom alone (2).

Successful hairdressing businesses supply their clients with professionally competent, safe and hygienic services, in clean and congenial premises. There are many hazards in the hairdressing industry that may result in illness or injury for both workers and clients. New or inexperienced apprentices are especially at risks. Job-related health and safety issues may be considered as a too often ignored responsibility of the management (3).

Hairdressers are subjected to various occupational ergonomic problems. Poor posture, mechanical load on the joints, prolonged standing, and long work hours play key roles in their health risks (4-6). Hairdressing is also known as a high-risk occupation because of problems such noise, higher temperature, electrical appliances and contact with cosmetic products like shampoo, creams, dyes and conditioners that contain many chemicals. These chemical substances with allergen and irritant effects cause health problems such as respiratory, skin and ocular diseases in hairdressers (7-9).

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These professionals are chronically exposed to a large number of chemicals present in their work environment, including potential carcinogens contained in hair dyes. Thus hairdressers are at a higher risk of cancer than the general population (10).

On the other hand, hairdressers are exposed to numerous different skin-damaging factors. Hairdressing is the occupation with the highest incidence of occupational skin diseases especially contact dermatitis (11) and trauma by utensils (12).

In addition, workers and clients in hairdressing salons are at risk of infectious agents through equipment and products that are used on different clients, from hands of hairdressers and via particles floating in the salon air. Due to skin injuries and exposure to blood, there is always the potential for transmission of blood borne infections such as: hepatitis B, hepatitis C and human immunodeficiency virus. Other biological hazards include: skin infestations like head lice and scabies, *staphylococcus aurous* skin infections and impetigo (13).

A suitable work environment should be maintained and there should be no hazards that affect the health of the clients or those employed at the premise. Staffs operate more effectively and have fewer accidents if they have had sufficient training on how to do their job. Awareness and prevention of occupational risks can prevent human health problems (14). There is a well-known, large, and persistent association between education and health. Education plays a key role in reducing hazard and increasing safety at the workplace (15).

If necessary information and education is not provided for the workers, they and their customers may become under increased risk of certain diseases and injuries. Results of different studies have shown that hairdressing education is an important determinant of preventive strategies in workplaces (16-19). In order to meet the world health organization (WHO) requirements, for health promotion and safety in occupational settings, it is necessary to design educational and preventive strategies on the level of individual behavior concerning workplace conditions (20).

With regard to the above-mentioned risks, the hairdressing industry needs to develop and implement a strategic plan to achieve major improvement in caring for salon employees and customers. Emphasis must be placed on strengthening and improving the health and safety program on a continuing basis.

Early education, training and prevention are the best approach for the management of problems and disorders that are common in hairdressing salons. Training should be given in areas such as hazards and risks in the salon, control measures to minimize risks, safe operation of equipment, use and maintenance of personal protections and emergency procedures (21).

In Iran hairdressing is a popular and developing job. Before employment hairdressers undergo a training course. There is no continuing education program in Iran for hairdresser. One of the responsibilities of Public Health Centers in Iran is occupational health improvement and reducing work-related hazards and diseases. Risk assessment by Population-Based Research Center of Semnan University of Medical Sciences in Semnan province convinced us to select hairdressing salons as candidates for educational intervention. This selection was based on the rate of problems, responsibility of authorities, feasibility and cost-effectiveness.

To improve health and safety practices and to reduce the risk of injury and work-related disease in the hairdressing industry, an educational intervention program was designed and implemented and a systematic evaluation of their effectiveness was performed. This intervention program is unique in that it incorporates many different aspects of hairdressing conditions and safety.

2. Objectives

The aim of this study was to evaluate the possible effects of an interventional education program for hairdressing employees.

3. Materials and Methods

This quasi-experimental (before-after) study was carried out in hairdressing salons situated in Semnan, Iran from 2006 to 2007. It was designed to evaluate the effect of an education program on the occupational condition and behavior in hairdressing salons. Measurements were made at baseline and again after the intervention program. The population of this study consisted of hairdressers who were members of the Semnan Hairdressing Association. All subjects possessed professional certificates. Hairdressers received a certificate after two years of theoretical and practical teaching and passing the final examination. All member of the Hairdressers Association were invited to participate in this study. An advisory board was recruited and organized during the planning phase to help the research team understand how to work best. Advisory board members for this study were from the Population-Based Research Center of Semnan University of Medical Sciences. Board members reviewed program plans, questionnaire design, intervention materials and results. The research was conducted for one year from baseline survey until post-intervention survey.

Discussions about aims and methods of study were made with the Hairdressing Association, and Public and Occupational health authorities to decide on organizational considerations for the main educational intervention and to gain the collaboration of hairdressers. Motivational sessions were held and purpose of the study was explained to the participants, who were given the right to withdraw from the study at any time without consequence, and written informed consent was obtained. Participants were informed that all their information was kept confidential. Hairdressing salons without creditable certificates were excluded.

First, the current condition of the hairdressing salon was evaluated based on guidelines of the Ministry of Health and Medical Education of Iran. The questionnaires were developed according to these guidelines for hairdressers to measure behaviors of employee and conditions of salons (22). A pre-education questionnaire-based survey was conducted. Various activities performed by the hairdressers and the condition of salons were recorded by direct observation of trained observers. Information was obtained about background characteristics of salons and hairdressers behavior during work. Investigated items included:

1- Design of salon
2- Physical condition of building
3- Waste and sewage disposal
4- Washing systems (hair and hand washing basins)
5- Drainage, ventilation and lighting facilities
6- Storing appliances and utensils
7- Safety equipment and first aid boxes
8- Use of personal protective equipment
9- Use of private instruments and utensils for clients
10- Hand washing and healthy behavior of hairdressers
11- Use and disposal of sharp objects such as razors and blades
12- Decontamination and sterilization

Overall the questionnaire had 107 questions. To ensure the clarity of questionnaires, pilot testing of the questionnaire was performed using the coherence and consistency of ten hairdressing salons that were not included in the survey.

The observers visited salons as client and filled out the questionnaires. Unannounced inspections were conducted by two trained technicians who recorded detailed observations. At the end of the observation they introduced themselves to the staff, so that they could ask questions if required.

After the baseline survey, the educational intervention program was implemented. Hairdressers participated in various health-educational modules that provided in-depth knowledge on all relevant aspects of hairdressing conditions, occupational safety behaviors and preventive measures. The interventional education program included face-to-face and group teaching methods and distribution of informative pamphlets and posters. Group teachings consisted of three sessions, involving infectious disease, occupational health and public health specialists from Semnan University of Medical Sciences. Each teaching session was six hours in duration.

More emphasis was placed on the weak points identified in the baseline survey and encouraged hairdressers to improve work environments based on guidelines. At 12 months post intervention, follow-up data were collected by the same questionnaire completed by the same observer. The study was approved by the Research and Ethics committee and Population-Based Research Center of the Semnan University of Medical Sciences.

The scoring of variables was based on 1 (for Yes) and 0 (for No) response. Statistical analysis was performed by McNemar and Paired sample t-tests using the SPSS 16.00 software. A P value of less than 0.05 was considered statistically significant.

4. Results

This study was carried out in 147 hairdressing salons. Overall, 139 salons (92 female salons and 47 male salons) completed the intervention course. The findings showed that after 12 months of follow-up, the intervention significantly improved most variables especially for environment of salons, use of private instruments, and waste and sewage disposal. We failed to find any significant improvements before and after intervention for items of washing systems, doors and windows condition (Table 1).

The findings of men and women salons were compared separately. Item by item analysis in women salons indicated that the scores of door and windows condition ($P = 0.384$), washing systems ($P = 0.136$) and use of private instruments ($P = 0.128$) had no significant change before and after intervention. However, in men salons these variables improved significantly ($P < 0.05$).

Results regarding safety and healthy behaviors of hairdressers are showed in Table 2. The data indicated that except for suitable storing of dresses ($P = 0.281$) all items improved significantly ($P < 0.05$).

When comparing safety and healthy behaviors (use of garment and apron, wearing gloves, storing of dresses, hand washing, single-use razors and blades, disinfections and sterilization) between women and men salons, all items improved significantly in women salons. In men salons hand washing ($P = 0.265$), use of garments ($P = 0.21$), and disinfection ($P = 1.00$) and sterilization procedures ($P = 1.00$) did not show significant improvement.

Table 1. Effects of Education on Salon Conditions Before and After Intervention [a]

Variable	Before	After	P Value
Salon design	11.25 ± 2.54	13.08 ± 1.80	< 0.001
Washing system	4.29 ± 1.54	4.23 ± 1.57	0.725
Waste disposal	7.70 ± 1.56	8.85 ± 1.02	< 0.001
Sewage disposal	3.85 ± 1.42	4.65 ± 0.85	< 0.001
Safety equipment	2.02 ± 0.97	2.83 ± 0.56	< 0.001
Private instruments	2.67 ± 1.22	3.37 ± 1.38	< 0.001
Doors, windows	9.25 ± 2.91	8.92 ± 3.18	0.267
Physical environment	6.85 ± 2.64	9.03 ± 1/20	< 0.001
Smoking	3.19 ± 1.53	4.61 ± 0.80	< 0.001
Storing	0.78 ± 0.41	0.95 ± 0.22	0.001

[a] Data are presented as mean ± SD.

Table 2. Effects of Education on Healthy Behavior of Hairdressers Before and After Intervention [a]

Items	Before	After		P Value
		Yes	No	
Garment				< 0.001
	Yes	47 (33.8)	13 (9.3)	
	No	55 (39.5)	24 (17.2)	
White, clean apron				< 0.001
	Yes	65 (48.8)	8 (3.8)	
	No	58 (43.4)	8 (3.8)	
Gloves				0.001
	Yes	99 (73.1)	8 (5.2)	
	No	30 (20.8)	2 (0.7)	
Storing of dresses				0.281
	Yes	67 (50)	25 (17.4)	
	No	34 (24.3)	13 (8.3)	
Hand washing				< 0.001
	Yes	57 (40.9)	14 (10.1)	
	No	59 (42.4)	9 (6.4)	
Single-use razors				< 0.001
	Yes	102 (73.8)	2 (1.3)	
	No	32 (23.2)	3 (1.5)	
Disinfections				0.011
	Yes	95 (69.6)	11 (7.4)	
	No	26 (19.2)	6 (3.7)	
Sterilization				< 0.001
	Yes	27 (19.5)	23 (16.6)	
	No	61 (43.4)	28 (20.2)	

[a] Data are presented as No. (%).

5. Discussion

There is strong evidence to conclude that employees of small enterprises including hairdressing salons are subject to higher risks than the employees of larger ones, and small enterprises have more difficulties in controlling risk factors. Raising awareness about occupational health risks and preventive measures among hairdressing facility owners and employees may motivate them to advocate for safe workplaces for themselves and their customers (23).

Insufficient training can cause problems at the workplace (24). Palmer et al. in a study of compliance with the Control of Substances Hazardous to Health Regulations and health safety awareness in hairdressing salons detected that relatively a few of the establishments had taken steps to comply with the statutory requirements of the Control of Substances Hazardous to Health Regulations. Some premises lacked basic skin care facilities and employers often failed to provide hand care training and health monitoring. They recommended that future efforts should be directed at training and influencing the attitudes of hairdressing employers (25). A study by Ataei et al. showed that, staffs of women's beauty salons in Isfahan had intermediate knowledge about blood borne pathogens and recommended more education for increasing knowledge of hairdressers (26). In this study we tried to clarify how interventional education impacts employee health risks and conditions and causes improvement in many aspects of hairdressing.

Our data showed that participation in a health educational intervention program is crucial for successful change in job related conditions. Improvement was especially prominent for physical environments, use of private instruments, waste and sewage disposal, safety equipment and first aid boxes. It is important to note there was no previous study with similar intervention programs, as that of ours, found in the literature.

Some other studies showed that education is effective in reducing hazard and improving health conditions in work places (27, 28). Dickel et al. reported that an impressive downward trend in cases of occupational skin diseases in hairdressers has occurred in Northern Bavaria over the past decade. They concluded that this reflects improvements in working conditions due to new legislations and intensified preventive measures (27). Similarly, in another study on wet work employees, the intervention program was successful with respect to information level, behavior, and clinical symptoms of work-related skin problems (28). Another study showed that the overall health of self-employed hairdressers is lower than that of their wage-earning counterparts. The authors concluded that this can be attributed to several aspects of the workplace and organization, including longer work hours, fewer protective measures and the absence of preventive medicine in the workplace due to lower education (29).

In another study, a six-month combined dermatological and educational prevention program with an education and counseling scheme for hairdressers significantly reduced occupational skin diseases and enabled the affected hairdressers to remain at work (30).

Arokoski et al. performed an intervention on 21 female hairdressers with neck, shoulder or back pain. After approximately four weeks of rehabilitation and vocational courses during one year, a positive outcome was achieved. Physical strain and pain symptoms were reduced significantly after this period (31). All mentioned studies evaluated only one problem. The superiority of our study is the evaluation of many aspects of this job.

One important item that did not show significant improvement after intervention was washing systems (P = 0.725). Absence of separate hand and hair washing basin and hot water supply were the most important items that were not affected by our intervention. This may be due to difficulties in changing this item or associated financial aspects. Another probable reason is that education for these items was insufficient. This finding suggests that

further effort is needed to improve this condition. Also Hairdressing Association authorities should obligate new salons to include this item at the workplace before receiving their license.

Use of private instrument by clients is one of the most important and noticeable subjects in hairdressing salons (13). Unfortunately our intervention had no significant effect on this item in women hairdressing salons (P = 0.128) especially for combs, brushes, scissors and clippers. On the other hand, in men salons, hand washing (P = 0.281), disinfection (P = 1.00) and sterilization (P = 1.00), which are very important aspects of healthy behavior, were not significantly affected by education. We cannot clarify the exact causes for these problems. Different outcomes of the educational program in men and women salons may be related to sex differences in learning styles. It is possible that personal hygiene is more important for women. On the other hand, men may be more motivated to improve workplace conditions.

In the future, a closer collaboration between the Local Hairdressing Association and Occupational Health Organization authorities may provide a source of encouragement for improvement of hairdressers' behaviors in items that were not significantly improved by the current intervention.

There are some limitations in this study. First, the present study was not a controlled trial study. Second, our follow-up assessment was done during one year. This time frame may be short to detect some changes. Third, the present study could not provide information on the effect of education, based on duration of employment. Finally, our study did not evaluate the relative influence of the different components of our intervention (face-to-face education, group teaching, and informative pamphlets and posters) on change of conditions. This intervention can easily be used by other small enterprises and might improve aspects of occupational hazards and safety behaviors.

In conclusion, these findings suggest that a carefully coordinated, extensive, multicomponent educational intervention positively influences knowledge and behavior of hairdressers in many aspects. Also, this study provides additional evidence that integrated worker education and health enhancement positively impact employees' health risk and productivity; it also reinforces the view that "good health is good business". More educational programs for improving work-related conditions and healthy behavior of hairdressers should be integrated into their training programs. Regular continuous teaching programs and evaluation of the long-term effects of such education programs are also recommended.

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Authors' Contributions

Mohammad Nassaji, Shahin Kamal and Raheb Ghorbani: study conception, design, data analysis and writing of the article. Others: study conception, study design and data collection.

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References

1. Corbett JF. Hair coloring processes. *Cosmetics Toiletries.* 1991;**106**:53–7.
2. Stars and stripes barber group.. *history of barbering* .. Available from: http://www.barbershop.com/barberhistory.htm.
3. HSE . *Health and safety and your business-risk assessment (hairdressing).* 2004. Available from: http://www.hse.gov.uk/pubns/index.htm.
4. Nevala-Puranen N, Halonen M, Tikkanen R, Arokoski JPA. Changes in hairdressers' work techniques and physical capacity during rehabilitation. *Occup Ergon.* 1998;**1**(4):259–68.
5. Chen HC, Chang CM, Liu YP, Chen CY. Ergonomic risk factors for the wrists of hairdressers. *Appl Ergon.* 2010;**41**(1):98–105.
6. Jung PK, Lee JH, Baek JH, Hwang J, Won JU, Kim I, et al. The effect of work characteristics on dermatologic symptoms in hairdressers. *Ann Occup Environ Med.* 2014;**26**:13.
7. Ronda E, Hollund BE, Moen BE. Airborne exposure to chemical substances in hairdresser salons. *Environ Monit Assess.* 2009;**153**(1-4):83–93.
8. Khumalo NP, Jessop S, Ehrlich R. Prevalence of cutaneous adverse effects of hairdressing: a systematic review. *Arch Dermatol.* 2006;**142**(3):377–83.
9. Moscato G, Pignatti P, Yacoub MR, Romano C, Spezia S, Perfetti L. Occupational asthma and occupational rhinitis in hairdressers. *Chest.* 2005;**128**(5):3590–8.
10. Takkouche B, Regueira-Mendez C, Montes-Martinez A. Risk of cancer among hairdressers and related workers: a meta-analysis. *Int J Epidemiol.* 2009;**38**(6):1512–31.
11. Lee A, Nixon R. Occupational skin disease in hairdressers. *Australas J Dermatol.* 2001;**42**(1):1–6.
12. Shiao JS, Wong BJ, Chang S-J, Guo YL. Occupational skin disorders and scissors-induced injury in hairdressers. *Safe Sci.* 1997;**25**(1–3):137–42.
13. Moore JE, Miller BC. Skin, hair, and other infections associated with visits to barber's shops and hairdressing salons. *Am J Infect Control.* 2007;**35**(3):203–4.
14. Centers for Disease Control and Prevention.. *NIOSH: National Occupational Research Agenda.* 1996. Available from: http://www.cdc.gov/niosh/nora/.
15. LaMontagne AD. Evaluation of OSHA health standards. In: Levy BS, Wegman DH editors. *Occupational Health: Recognizing and Preventing Work-Related Disease*.. Philadelphia: Lippincott Williams & Wilkins; 2000. pp. 134–5.
16. Goldenhar LM, LaMontagne AD, Katz T, Heaney C, Landsbergis P. The intervention research process in occupational safety and health: an overview from the National Occupational Research Agenda Intervention Effectiveness Research team. *J Occup Environ Med.* 2001;**43**(7):616–22.
17. Veiersted KB, Gould KS, Osteras N, Hansson GA. Effect of an intervention addressing working technique on the biomechanical load of the neck and shoulders among hairdressers. *Appl Ergon.* 2008;**39**(2):183–90.
18. Heron RJ. Worker education in the primary prevention of occupational dermatoses. *Occup Med (Lond).* 1997;**47**(7):407–10.
19. Moghadam MHB, Ehrampoush SS, Mazloomy MH. The Effect of Health Eduction in Promoting Health of Hairdressers about Hepatitis B Based on Health Belief Model. *Acta Medica Iranica.* 2005;**43**(5):342–6.

20. Napalkov N. The role of the World Health Organization in promoting patient education with emphasis on chronic diseases. *Patient Educ Couns.* 1995;**26**(1-3):5–7.
21. Crippa M, Torri D, Fogliata L, Belleri L, Alessio L. [Implementation of a health education programme in a sample of hairdressing trainees]. *Med Lav.* 2007;**98**(1):48–54.
22. Iran Ministry of Health and Medical Education.. *The guidelines for hairdressers.*; 2000.
23. Hasle P, Limborg HJ. A review of the literature on preventive occupational health and safety activities in small enterprises. *Ind Health.* 2006;**44**(1):6–12.
24. Mahan B, Morawetz J, Ruttenberg R, Workman R. Workplace safety and health improvements through a labor/management training and collaboration. *New Solut.* 2013;**23**(4):561–76.
25. Palmer KT, Freegard J. Compliance with the Control of Substances Hazardous to Health Regulations (COSHH) 1988 and health and safety awareness in hairdressing establishments. *Occup Med (Lond).* 1996;**46**(1):49–52.
26. Ataei B, Shirani K, Alavian SM, Ataie M. Evaluation of Knowledge and Practice of Hairdressers in Women's Beauty Salons in Isfahan About Hepatitis B, Hepatitis C, and AIDS in 2010 and 2011. *Hepat Mon.* 2013;**13**(3).
27. Dickel H, Kuss O, Schmidt A, Diepgen TL. Impact of preventive strategies on trend of occupational skin disease in hairdressers: population based register study. *BMJ.* 2002;**324**(7351):1422–3.
28. Held E, Mygind K, Wolff C, Gyntelberg F, Agner T. Prevention of work related skin problems: an intervention study in wet work employees. *Occup Environ Med.* 2002;**59**(8):556–61.
29. Deschamps F, Langrand J, Lesage FX. Health assessment of self-employed hairdressers in France. *J Occup Health.* 2014;**56**(2):157–63.
30. Wulfhorst B, Bock M, Gediga G, Skudlik C, Allmers H, John SM. Sustainability of an interdisciplinary secondary prevention program for hairdressers. *Int Arch Occup Environ Health.* 2010;**83**(2):165–71.
31. Arokoski JP, Nevala-Puranen N, Danner R, Halonen M, Tikkanen R. Occupationally Oriented Medical Rehabilitation and Hairdressers' Work Techniques–A one-and-a-half-year follow-up. *Int J Occup Saf Ergon.* 1998;**4**(1):43–56.