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Interdisciplinary



Bafqs Miners Burnout

Thérapeutiques Et Pronostiques

Highlights

Elevated Nutritional Needs

Professional Community Training

Discovering Thoughts, Inventing Future

VOLUME 16 ISSUE 4 VERSION 1.0

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Inter-Professional Community Training and Partnerships – A View from USA Academic Nursing Students

By Pamela Cromer, Anas Raed, Renata Biber, Debbie Layman, Jigar Bhagatwala, Haidong Zhu, Andrew Mazzoli, Carol Hanes, Ranjitha Krishna, Miriam Cortez-Cooper, David Thompson, Jason Hughes, Chelsey Lemons & Yanbin Dong

Augusta University

Abstract- *Problem:* Health promotion in underserved populations is a major emphasis among academic medical centers in the USA as they prepare the future provider workforce for community based inter-professional healthcare delivery.

Approach: This paper provides a survey report of nursing student's response regarding their participation at an interprofessional community partnership health fair and research project (The 2015 Costa Layman Health Fair and Cardiometabolic Risks in Hispanic Farmworkers (CHARM) Study). With a full complement of inter-professional faculty and student teams, the core mission is to provide student training and to promote the health of the Hispanic farm-workers.

Keywords: *health promotion/prevention, hispanics, interprofessional health teams, nursing student health fair/ CHARM study, hispanic outreach.*

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Inter-Professional Community Training and Partnerships – A View from USA Academic Nursing Students

Pamela Cromer [α], Anas Raed [σ], Renata Biber [ρ], Debbie Layman [ω], Jigar Bhagatwala [¥], Haidong Zhu [§], Andrew Mazzoli [χ], Carol Hanes [ν], Ranjitha Krishna [Θ], Miriam Cortez-Cooper [ζ], David Thompson [£], Jason Hughes [€], Chelsey Lemons [₣] & Yanbin Dong [₴]

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Major Findings: Response themes center on core competencies and include student abilities to work collaboratively with inter-professional teams, perform a population assessment, and develop project leadership/ management skills, as well as population and cultural awareness, scholarship, and health promotion contributions.

Conclusions: Community outreach and an emphasis on clinical evidence is transforming clinical practice for nursing students and generating new approaches for meeting the health care needs of disparate populations with barriers to traditional care delivery methods. This inter-professional health fair and research model promotes a sense of "community partnership" between the health delivery teams, the farmworkers, business owner and the academic university. Such partnerships become win-win situations for all.

Keywords: health promotion/prevention, hispanics, inter-professional health teams, nursing student health fair/ CHARM study, hispanic outreach.

I. Introduction

In America, agriculture, a most dangerous industry, is a common employer of seasonal farmworkers, the majority of whom are Hispanic[8]. Transient employment, language barriers, cultural practices, higher levels of poverty (23%), lack of healthcare access, as well as lower literacy issues confront this population, making them an underserved population and more vulnerable to health disparity than other races[3]. Specifically, Hispanics are more likely to be overweight (70%), have a stroke (30%), and die from diabetes (40%) [6]

Driven by the USA's national policy agendas [2,7,9], health promotion in underserved populations is a major emphasis among academic medical centers in the USA as they prepare the future provider workforce for community based inter-professional healthcare delivery. Shifting demographics and the economic burden associated with treating chronic illness and disease has propelled community partnerships that offer benefits beyond the traditional service-line model of care. Compelling evidence from the Community Preventive Services Task Force [4,5], and the American Heart Association [1], supports benefits of primary, secondary, and tertiary community based programs for cardiovascular health. Inter-professional Health Fair and Research Outreach Programs offer a mechanism to study and improve the disparity among this underserved population, in their own communities.

II. Background

Nursing education has a long tradition of caring for and educating the poor and vulnerable. Worksite health fairs, useful for health screenings are also commonplace. The Annual Costa Layman Health Fair and Cardio-metabolic Risks in Hispanic Farmworkers (CHARM) study, with a full complement of inter-professional faculty and student teams has at its core mission: "To improve the health of the people in communities we serve". Having completed the tenth year anniversary as a comprehensive health fair screening program, and a three year IRB approved CHARM study, valuable insights into the dimensions of nursing and health scientists working together to achieve a common mission is crucial to inform academic policy and make necessary curriculum changes for community health delivery systems of the future. Inter-professional teams working closely with this nursing project include faculty and students from the

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College of Medicine, College of Dentistry and Periodontal Medicine, Optometry, Georgia Prevention Institute, Premier Laboratory Services, Ryan White Community Outreach, Culturally and Linguistically Appropriate Services, GRU Cancer Center, Library Services, and Allied Health (Respiratory, Physical and Occupational Therapy Departments).An initial report on nursing student response to implementation of this project is helpful to continue to design meaningful clinical experiences and inter-professional team work.

III. Purpose

This paper provides an initial review on nursing student response to participation at an inter-professional and business partnership health fair and research project that promotes the health of uninsured/ underinsured Hispanic farmworkers in the southeastern USA.

IV. Objective

To identify reported competencies gained by graduate nursing student participants at a community outreach health fair and research project (CHARM Study) for Hispanic farm-workers, 2015 summer semester.

V. Methods

Nursing students were assigned responsibilities in various teams to prepare for the health fair, including the following: Community Assessment, Patient Education, Translation, Referral Directory, Consent and Labs, and Data Entry/Analysis. In addition, all students were assigned to specific screening tasks on the day of the health fair event. At least one nursing student was assigned to each interdisciplinary screening booth at the health fair. Upon project completion, an electronic Student Survey Questionnaire, consisting of 13 items with check boxes was distributed to the twenty-one nursing students (Masters Level Clinical Nurse Leader Program)enrolled for clinical credit at the annual inter-professional Costa Layman Health Fair and Research Project at a major academic nursing college in southeast USA. Results were coded, tabulated, and graphically represented to faculty by an assigned nursing student (team leader) who was also a class member. See Table 1: Survey Questions.

Table 1 : Survey Questions

VI. Results

Fifteen students completed the survey. Of these, 64.3% reported spending six to ten hours weekly preparing and organizing for this inter-professional health fair and research project. There were no student absences for clinic or class.

Identified competencies and themes of questions as well as student responses are as follows:

- Respect for scholarship and professional etiquettes appropriate to academic/community work (100%)
- Personal pride of contributions made to promote health awareness (to the farmworkers) (100%)
- A recognized need for and beginning collaboration with other inter-professional groups (100%)
- Appreciation for complex project management skills (100%)
- Cultural awareness of the Costa Layman farm community (100%)
- Ability to assess and describe the demographics of the Costa Layman farm community (100%)

Students reported, (100%), that the above acquired competencies enriched their academic experience. Overall, students reported the project to be excellent (100%), effective in improving their knowledge of population/public health (93%) and in learning useful strategies to work with disparate populations (86.7%).All students (100%) reported they would use these strategies as future health care providers and eleven out of fifteen (73.3%) thought they would use these strategies in their student roles within the next one month to six months.

The student's reported reasons for completing the survey were: "requested by faculty" (28.5%); "for continued support of the project (50%); and "out of respect for their team's work" (21.4%).All students (100%), reported they believed that continued future health fair project activities are necessary.

VII. Discussion

Student training and feedback are essential components of all courses/programs and provides for clarification and critique points that inform, support, or signal a need for programmatic or project change and/or refinement. Positive response rates indicate students are favorable to the use of inter-professional health screening teams and recognize the unique skill sets required to work with disparate farmworkers, many of whom are non-English speaking. They also appreciate the cultural considerations of the population and the inter-professional etiquette and collaborations among the teams as an integral part of a successful outreach program. Because there were no answers of disagreement to survey questions, it is assumed that major changes in program/project implementation is not recommended, but further refinement and continued inter-professional team support for community health fair and research projects may enhance nursing student's learning needs within the community.

VIII. Conclusions

Community outreach and an emphasis on clinical evidence is transforming clinical practice for

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nursing students and generating new approaches for meeting the health care needs of disparate populations with barriers to traditional care delivery methods. This inter-professional health fair and research model promotes a sense of "community partnership" between the health delivery teams, the farmworkers, business owner and the academic university. Such partnerships become win-win situations and everyone benefits.

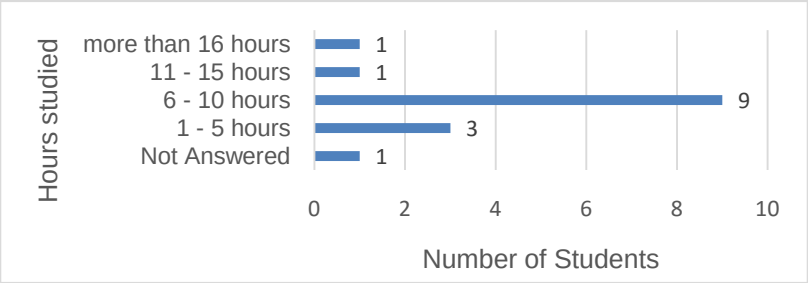
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Table 1 : Survey Questions

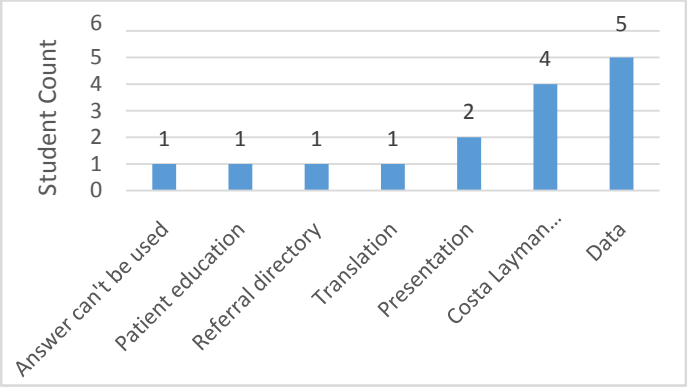
1. What is your professional degree?

   15 students (100%) indicated CNL Class of 2015 students
2. Indicate number of hours you spend each week in study of this course (n=14)



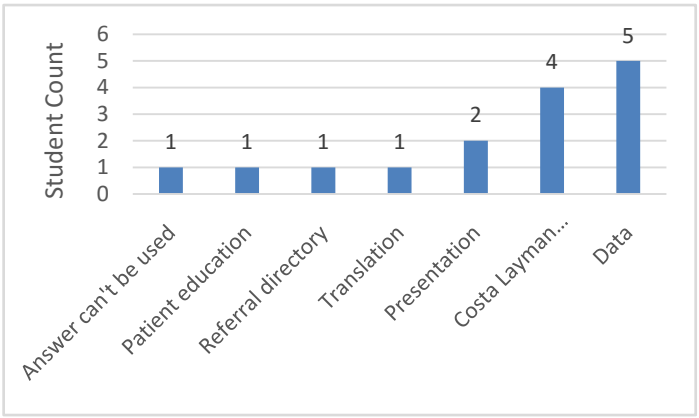
3. I certify that I attended required class/clinical sessions

   15 students (100%) said yes

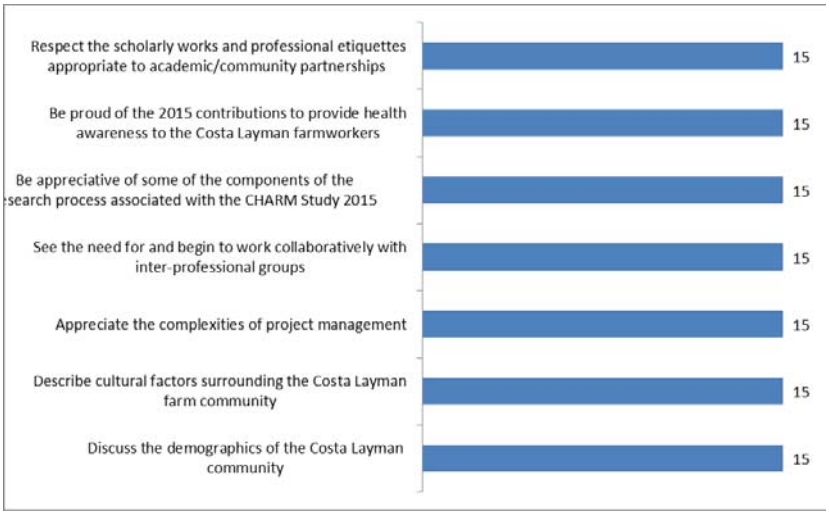


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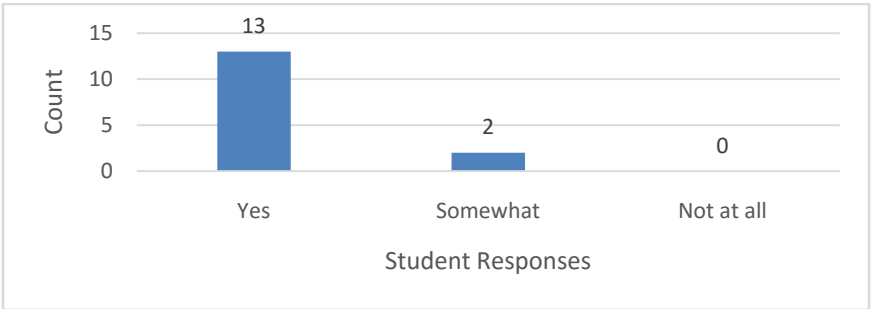
4. Name your Project Team (n=15)



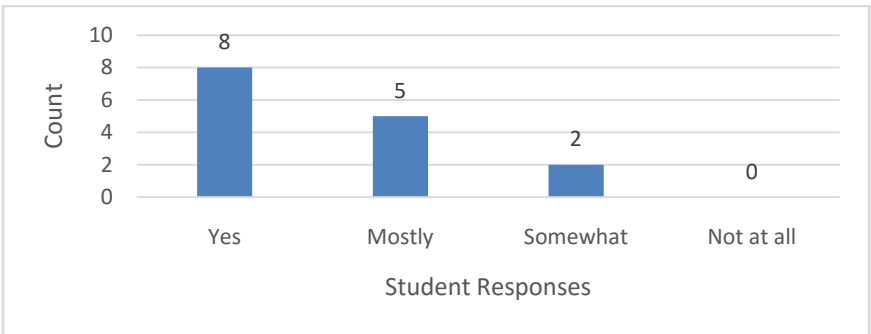
5. Upon completion of this course I can now: (n=15)



6. Generally speaking, items in #6 above have enriched my academic experience

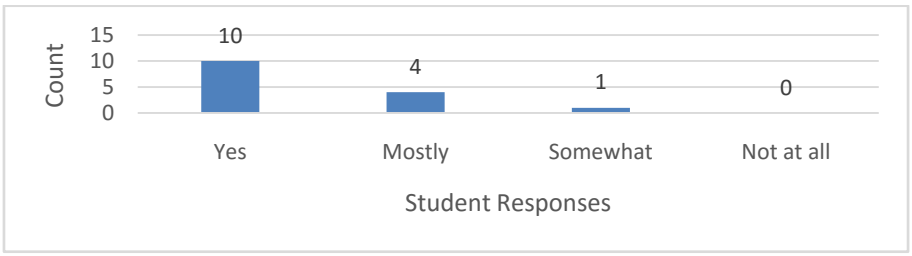


7. Overall Ratings: Overall this was an excellent Clinical Project:

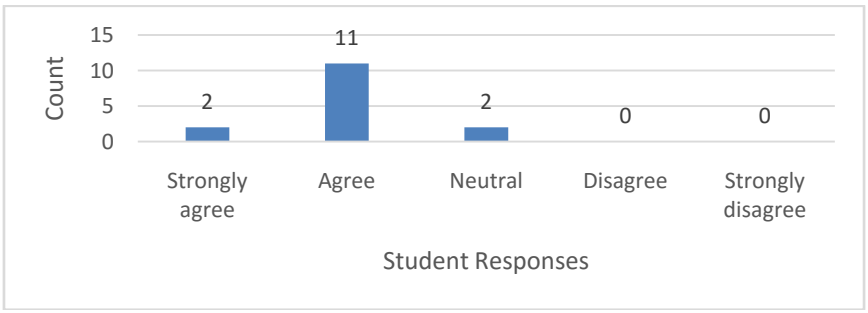


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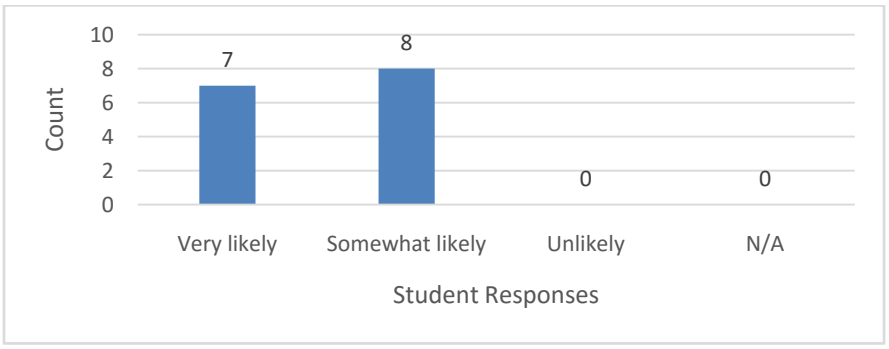
8. Overall, this course was effective in improving my knowledge about population/public health:



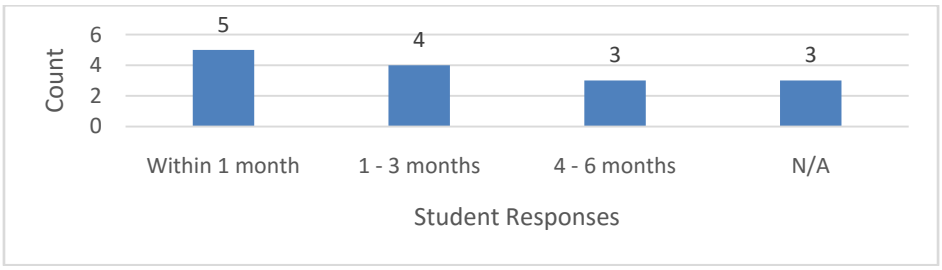
9. As a result of this course, I have learned new and useful strategies in working with a "Disparate Population"



10. How likely are you to implement these new strategies in your work as a future healthcare provider?

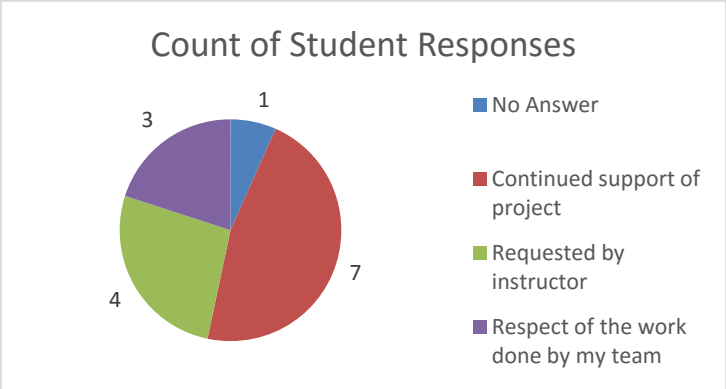


11. When do you intend to implement these new strategies into your work as a student & future health care worker?



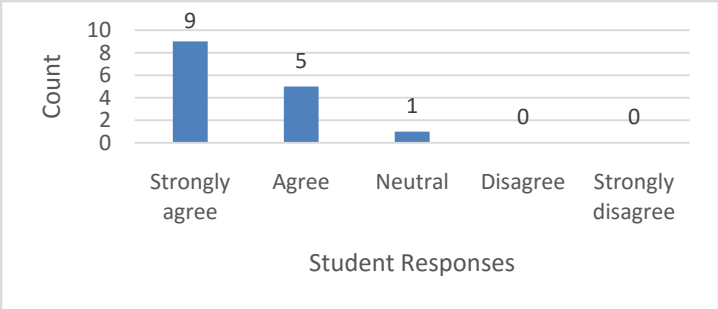
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12. Which statement best reflects your reason for participation in this survey (n=15)



6.67%	Not answered
46.67%	Continued support of project
26.67%	Requested by instructor
17.65%	Respect of the work done by my team

13. Future activities concerning this project are necessary (n=15)



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Amblyopie Fonctionnelle: Aspects Clinques, Thérapeutiques Et Pronostiques a Propos De 80 Patients Fonctional Amblyopia, Clinical, Therapeutic and Prognostic Aspects : 80 Cases Report

By Samia El Haouzi, Youssef Amrani, Wafae Ibrahimi, Tachfouti Samira, Samir Ahid, Ouafa Cherkaoui, Karman Abdellouahed & Rajae Daoudi

Summary- Purpose: The aim of this study was to verify if we had a good management of amblyopia and to study its clinical, therapeutic and prognostic.

Methodology: This is a retrospective study made in the service of Ophthalmology at the hospital specialties Rabat between 2000 and 2010, involving 80 patients with functional amblyopia.

Results and discussion: The average age of care was 4.68 years, the majority of children had bilateral amblyopia itself 67.5%, 48.8% of average depth. All of strabismus in our series is 91.3% and Strabismus anisometropia was the dominant etiology in our series.

In multivariate analysis: only the lateage and depth of amblyopia were the factors affecting the gain line of sight.

Indeed a delay of support for one year leads to a loss of 0.211 AV line (P = 0.041).

Keywords: amblyopia - strabismus - visual acuity- Prognostic factors.

GJMR-K Classification: NLMC Code: WB 300



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Amblyopie Fonctionnelle: Aspects Clinques, Thérapeutiques Et Pronostiques a Propos De 80 Patients Fonctional Amblyopia, Clinical, Therapeutic and Prognostic Aspects : 80 Cases Report

Samia El Haouzi [α], Youssef Amrani [σ], Wafae Ibrahimi [ρ], Tachfouti Samira [ω], Samir Ahid [¥], Ouafa Cherkaoui [§], Karman Abdellouahed [χ] & Rajae Daoudi [ν]

Résumé- But de travail: Le but de ce travail était de vérifier la qualité de prise en charge des malades présentant une amblyopie fonctionnelle en étudiant leurs aspects cliniques; thérapeutiques et pronostiques.

Méthodologie: Il s'agit d'une étude rétrospective colligée au service d'ophtalmologie A de l'hôpital des spécialités de Rabat entre 2000 et 2010, portant sur 80 patients présentant une amblyopie fonctionnelle.

Résultats et discussion: l'âge moyen de d'apparition de symptômes était de 2 ans et l'âge moyen de prise en charge était de 4,68 ans ; soit un retard de consultation de 2,68 ans, la majorité des enfants présentait une amblyopie bilatérale soit 67,5%, deprofondeur moyenne 48,8%, et Le strabisme anisométropique était l'étiologie dominante dans notre série. L'ensemble des strabismes dans notre série représente 91,3%des cas.

Nos résultats d'acuité visuelle finale étaient de 10,86/10 (toute cause confondue) avec un gain en lignes en moyenne de 4,04 (toute cause confondue).

La réussite thérapeutique est totale dans 81,3 % des cas (65 patients), partielle dans 15,0% (12 patients). L'échec est présent dans 3,8 % des cas (3 patients).

En analyse multivariée: seul le retard d'âge et la profondeur de l'amblyopie étaient les facteurs influençant le gain en ligne d'acuité visuelle. En effet un retard de prise en charge d'une année entraine une perte de 0,211 ligne d'AV (P=0,041).

Aux vues des données de la littérature et de notre étude, il semble donc que la prise en charge précoce contribue à une meilleure récupération de l'acuité visuelle.

Les différents auteurs sont d'accord et rapportent que la récupération d'acuité visuelle est dépendante de la profondeur de l'amblyopie initiale.

Conclusion: L'amblyopie est une urgence diagnostique et thérapeutique, son dépistage reste fondamental, dès le plus jeune âge, et son traitement, long et parfois contraignant, repose en grande partie sur la coopération et l'implication des parents, de l'enfant et des enseignants.

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Mots clés: amblyopie -strabisme - gain en ligne d'acuité visuelle –facteurs pronostiques.

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In multivariate analysis: only the lateage and depth of amblyopia were the factors affecting the gain line of sight.

Indeed a delay of support for one year leads to a loss of 0.211 AV line (P = 0.041).

Our findings of final visual acuity were 10.86 / 10 (all causes) with an average gain of 4.04 lines (all causes).

The therapeutic success was total in 81.3% of cases (65 patients), partial in 15.0% (12 patients). The failure is presenting 3.8% of cases (3 patients).

In multivariate analysis: only the late age and depth of amblyopia were the factors affecting the gain line of sight. En acute effect delayed management of one year leads to a loss of 0.211 line of AV (P = 0.041).

In view of the literature data and our study, it seems that early treatment helps Better recovery of visual acuity.

The various authors are in agreement and related whether the recovery of visual acuity is dependent on the depth of amblyopia Initial

Conclusion: Amblyopia is an urgent diagnostic is and treatment, screening is essential, from an earlyage, and treatment, long and sometimes binding, based largely on the cooperation and involvement of parents, children and teachers.

Keywords: amblyopia - strabismus - visual acuity- Prognostic factors.

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I. Introduction

Les déficits visuels du jeune enfant posent un véritable problème de santé publique ; un grand nombre d'entre eux ne sont pas détectés du fait de la discrétion de la symptomatologie, de l'absence de sensibilisation du public et des Professionnels. Ils peuvent être d'origine organique, fonctionnelle ou mixte; et constituent les propos essentiels de ce travail.

En effet, L'amblyopie fonctionnelle reste pour l'ophtalmologiste et pour l'orthoptiste un sujet d'actualité permanent. On constate la grande fréquence des amblyopies négligées qui n'ont jamais fait l'objet d'aucun traitement. Et chez les sujets qui ont été soumis à diverses thérapeutiques antérieures, on note très souvent la récidive de l'amblyopie par faute de surveillance [1].

La vision binoculaire normale se développe chez l'enfant au cours de la première décennie. C'est donc à un âge précoce qu'il faut dépister les problèmes de développement de la fonction visuelle et de la binocularité, afin de mettre en œuvre une prise en charge rapide et adaptée. Le traitement de l'amblyopie repose en grande partie sur la coopération et l'implication des parents, de l'enfant et des enseignants. L'importance de ce traitement, long et parfois contraignant, doit donc être bien expliquée pour qu'il puisse être réalisé dans les meilleures conditions[2].

L'objectif de notre étude rétrospective réalisée entre Janvier 2000 et Décembre 2010 à l'hôpital de spécialités de Rabat , Maroc dans le service d'ophtalmologie A est d'évaluer la qualité de prise en charge de nos malades, évaluer des facteurs de mauvais pronostic pour éventuellement proposer des éléments supplémentaires pour améliorer la prise en charge de l'amblyopie et faire des propositions pour rendre « obligatoire le contrôle visuel sur le carnet de l'enfant ;à la naissance, à 9mois, et à 3ans dans le but essentiel de réduire les conséquences socio-économiques du handicap visuel

II. Matériels et Méthodes

Il s'agit d'une étude rétrospective réalisée entre Janvier 2000 et Décembre 2010 à l'hôpital de spécialités de Rabat dans le service d'ophtalmologie A ;

Nous avons repris les dossiers de tous les patients ayant comme motif de consultation un strabisme ou un vice réfractif et dont l'examen a révélé une amblyopie fonctionnelle associée et dont la durée du suivi était entre 1 et 10 ans.Nous excluons de notre étude : Les amblyopies d'origine organique et les amblyopies mixtes.

Au total, 80 patients ont répondu à ces critères et ont été sélectionnés pour notre étude.

Tous nos patients ont bénéficié de d'un examen ophtalmologique initial complet: Réfraction initiale sous cycloplégie, Acuité visuelle de loin/près après port de la correction optique, et bilan orthoptique.

Différentes échelles d'acuité visuelle ont été utilisées adaptées à l'âge, à la coopération de ces enfants et leurs connaissances cognitives : L'échelle de Monoyer: images, chiffres ou lettres de Snellen.Echelle de Pigassou.

Tous les patients ont bénéficié d'étude des aspects cliniques: Données générales, âge de présentation, Etiologies des amblyopies et Profondeur de l'amblyopie. Par définition L'amblyopie est dite profonde lorsque l'acuité visuelle de l'œil concerné est inférieure ou égale à 1/10. Lorsque l'acuité est comprise entre 1/10 et 4/10, l'amblyopie est moyenne. Au-delà de 4/10, l'amblyopie est dite légère[3]. Également l'âge initial de prise en charge en fonction de l'étiologie, la Profondeur de l'amblyopie en fonction de l'étiologie et la Profondeur de l'amblyopie en fonction de l'âge de prise en charge ont été étudiés.

Les Traitements de l'amblyopie réalisés étaient l'Occlusion (en respectant les consignes) et le traitement chirurgical de strabisme, relayés ensuite par des occlusions alternées, filtre Ryser, et pénalisation optique.

La réussite totale du traitement est définie par l'obtention d'une isoacuité ou une différence d'acuité visuelle finale entre les deux yeux < ou égale à 1/10.

La réussite partielle est définie par une différence d'acuité visuelle finale entre les deux yeux comprise entre 1/10 et 3/10.

L'échec est défini pour une différence d'acuité visuelle finale entre les deux yeux > 3 lignes d'écart ou si l'acuité visuelle finale est égale à l'acuité visuelle initiale [4].

III. Résultats

Dans notre série on a constaté une légère prédominance du sexe masculin avec un sexe ratio de 1,16.

L'âge moyen de constatation des premiers symptômes était de 2ans (figure1). Par ailleurs l'âge moyen de prise en charge était de 4,68 ans. La tranche d'âge entre 2 et 4ans représentait la majeure partie des patients avec près de 40% des cas (n=80) (figure2).

En dehors de l'âge et de sexe, la prématurité représentait 2,5% des cas, et 8,8% des malades ont eu un nystagmus associé (tableau 1).

Dans notre étude, la majorité des enfants se sont présentés avec une amblyopie bilatérale soit 67,5% et l'amblyopie moyenne est la plus fréquente dans notre série soit 48,8% (légère 33,8% profonde 17,5%).

En ce qui concerne la Répartition des patients en fonction de l'étiologie de l'amblyopie nous constatons que L'ensemble des strabismes représente 91,3% des cas dont 70% sont des strabismes purs, et

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21% des strabismes anisométropiques alors que l'anisométropie ne représentait que 9% des cas. L'angle su strabisme était majoritairement à grand Angle dans 41% des cas, suivi des microstrabismes, et des strabismes de petit Angle dans 30% des cas (figure 3).

Ns avons comparé l'âge initial de prise en charge en fonction de l'étiologie sans retrouver de différence statistiquement significative (p=0,126) alors que notre étude retrouvait que l'amblyopie est plus profonde dans les amblyopies strabiques (pures et anisométropiques) avec respectivement 57,1% et 35,7% que pour les amblyopies anisométropiques. Mais les résultats ne sont pas statistiquement significatifs. (p=0,134) .De même Les amblyopies découvertes tardivement sont plus profondes. Mais il n'existe pas de corrélation statistiquement significative entre les différents groupes (p=0,581).

La majorité de nos malades ont bénéficié d'une occlusion soit 93,8% dont 28,8% étaient des occlusions sauvages.

Tous les patients strabiques ont bénéficié d'une correction optique totale.77 patients ont bénéficié d'une correction optique totale soit 96,3%.

Parmi les 73 enfants strabiques 5 enfants ont été opérés (6,3%) après rééducation de l'amblyopie.

L'occlusion intermittente a constitué l'essentiel du traitement de consolidation. En effet, plus des 2/3 de nos malades ont bénéficié de ce moyen thérapeutique.

Dans notre série on a obtenu un gain en ligne d'acuité visuelle de 4,04 lignes toutes causes confondues et l'acuité visuelle finale est de 10,86/10 toutes causes confondues.

En terme de réussite, elle est totale dans 81,3 % des cas (65 patients), partielle dans 15,0% (12 patients). L'échec est présent dans 3,8 % des cas (3 patients).

Pour les rechutes elles sont survenues chez 10 patients et récupérées totalement dans 9 cas, partiellement dans un cas. Par ailleurs nos bascules étaient observées pour 2 patients mais ont été récupérées totalement. Et on a eu 3 cas d'échec.

En analyse univariée le facteur associé en perte de gain est : Le retard de prise en charge et Le nystagmus . En analyse multivariée, en ajustant sur : souffrance néonatale, étiologie, et le nystagmus seul le retard de prise en charge et la profondeur de l'amblyopie étaient les facteurs influençant le gain.

En effet un retard de prise en charge d'une année entraine une perte de 0,211 ligne d'AV (p=0,041).

Et en passant d'un stade à un autre de profondeur de l'amblyopie on gagne 1,9 ligne d'AV (p<0,001) ce qui est statistiquement très significatif. Tableau (2).

Dans notre étude nous n'avons pas retrouvé de corrélation statistiquement significative entre l'acuité visuelle finale et l'âge de prise en charge (p=0,168), entre l'Acuité visuelle finale en fonction de l'étiologie de l'amblyopie (p=0,571). Et entre l'Acuité visuelle finale en fonction de la profondeur de l'amblyopie : (p=0,901).

Pour la réussite du traitement il n'existait pas de différence statistiquement significative pour l'acuité visuelle finale entre les trois groupes (p=0,636),_ni avec le retard de prise en charge (p=0 ,622) ou avec_la profondeur de l'amblyopie.

Par ailleurs il existait une corrélation négative faible entre le retard de prise en charge et le gain d'acuité visuelle (p=0,041) et nous avons retrouvé une différence statistiquement significative pour le gain en lignes d'acuité visuelle en fonction du degré d'amblyopie initiale (p=0,001) (figure 4 et 5).

IV. Discussion

Nous avons comparé la population de notre étude et nos résultats aux patients inclus dans les grandes séries traitant de l'amblyopie fonctionnelle.

Différentes études ont montré sur des populations strabiques qu'il y avait une relation entre strabisme et amblyopie. Le strabisme convergent était 3 fois plus fréquent que le divergent et l'amblyopie bien plus fréquente en cas de strabisme convergent (5 à 6 fois plus) qu'en cas de strabisme divergent [6]

Les facteurs de risque du strabisme sont l'hérédité, la prématurité, les lésions neurologiques, les amétropies, les facteurs environnementaux (syndrome d'anomalies de la grossesse et de la délivrance, exposition aux toxiques in utéro :alcool, tabac, toxicomanie…), les anomalies chromosomiques et génétiques (trisomie 21, syndrome de l'X fragile), les troubles neuromoteurs, les craniosténoses et les malformations de la face, les infections in utéro ou néonatales (Rubéole, toxoplasmose, herpès génital..) [7,8]

En général, nos résultats étaient compatibles avec les données de la littérature.

L'ensemble des strabismes représentait 91,3% des cas ; avec une fréquence plus importante des strabismes convergents 78,8%.

En accord avec la littérature Les facteurs de risque du strabisme retrouvés étaient l'hérédité présente dans 32,5% des cas, la prématurité (2,5%, soit 2 enfants), la souffrance néonatale (13,8% soit 11 enfants), le retard mental (1 patient) et la consanguinité (6,3%) [cf. tableau 1 données générales des malades]

Le strabisme et l'anisométropie sont les deux principales causes d'amblyopie fonctionnelle.

Dans cette étude, nous retrouvons une majorité de causes strabiques (91,3%), dont 70% de strabisme sans anisométropie associée.

Nos résultats rejoignent ceux de certains auteurs. Ainsi Shaw DE et AL en 1988 **[9]** dans une étude prospective sur 47 mois étudie 1531 nouveaux cas d'amblyopie chez des enfants de 0 à 15 ans.

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Levatorvsky [10] en 1995 sur 94 enfants retrouvent 85 % de causes strabiques et 59,5 % de strabisme sans anisométropie.

Clergeau [11] retrouve sur une série de 695 enfants amblyopes de 6 à 10 ans 40,2 % d'amblyopies anisométropiques sans strabisme et 59,8 % d'amblyopies strabiques.

A contrario, Bowman [12, 13] en 1998, sur une série de 88 enfants retrouvent seulement 29,5 % d'amblyopie d'origine strabique sans anisometropie associée, alors que les amblyopies anisométropiques pures sans strabisme représentent 53,4 % des causes d'amblyopie fonctionnelle (14,8 % pour Levatorvsky, 8,8 % dans notre série).

Attebo [14] a étudié la prévalence et les causes de l'amblyopie sur une population adulte. Il retrouve 50 % d'anisometropie isolée, 46 % de strabisme.

Dans une étude menée à Shiraz en Iran ; chez 2683 écoliers avec un âge moyen 12,50 ± 3,00 ans, 2007-2008 [15] la prévalence de l'amblyopie anisométropique était de 58,1%, et 2,02 % d'amblyopie strabique.

Il apparait ainsi que dans de plus grandes séries, la prévalence des amblyopies anisometropiques est plus élevée que dans notre étude.

Nos chiffres élevés d'amblyopies strabiques par rapport aux amblyopies anisometropiques s'expliquent par le biais de recrutement du centre hospitalier où le domaine de la strabologie est largement développé. Nous pouvons également remarquer d'après nos résultats que pour la majorité de nos strabismes, il s'agit de strabisme à grand angle, pour lesquels un avis chirurgical est demandé ce qui augmente le biais de recrutement en faveur des amblyopies strabiques.

L'âge de prise en charge dans notre série, était en moyenne 4,68 ans, alors que l'âge d'apparition des premiers symptômes était en moyenne de 2ans, soit un retard de consultation d'environ 2,5ans ;

Par ailleurs ; il ressort de notre étude que l'existence ou non d'un strabisme n'a pas influencé l'âge de consultation de nos malades.

Nos données rejoignent ceux de la littérature qui donnent des âges moyens de prise en charge d'environ:5 ans [16, 17, 18] ; bien que ces séries incluent plus d'amblyopies anisométropiques sans strabisme.

Ceci s'explique par la difficulté d'accès aux centres spécialisés et des conditions socio-économiques basses des parents.

Pour Levatorvsky et Se Youp Lee [19,2O], il n'existe pas de différence de profondeur d'amblyopie selon l'étiologie. Pour Kutschke [16], sur une série comportant uniquement des amblyopies anisometropiques, il n'y a pas de différence entre les patients avec ou sans strabisme.

En accord avec la littérature, nous ne retrouvons pas une corrélation statistiquement significative entre la profondeur de l'amblyopie et l'étiologie.

En termes de récupération de l'AV après traitement de l'amblyopie fonctionnelle, les résultats varient entre 5/10 et 6,5/10 d'après les données de la littérature [73] avec un gain moyen d'acuité visuelle de 3 lignes [22,23].

Nos résultats sont meilleurs pour l'acuité visuelle finale de l'œil amblyope puisque nos résultats d'acuité visuelle étaient de 10,86/10 (toute cause confondue) avec un gain en lignes en moyenne de 4,04 (toute cause confondue).

Dans la littérature, les résultats du traitement de l'amblyopie sont le plus souvent exprimés en acuité visuelle finale.

Pourtant, Stewart [24] rappelle l'objectif du traitement: obtenir l'isoacuité afin de permettre le développement d'une vision binoculaire optimale.

Nous avons retrouvé une étude ou les résultats étaient exprimés en terme de réussite par rapport à l'iso acuité: celle de Cleary [25], sur 119 enfants. La réussite était totale dans 29 % des cas, partielle dans 49 % des cas. Il y avait 22 % d'échecs.

Dans notre étude ; les résultats sont meilleurs, la réussite est totale dans 81,3 % des cas (65 patients), partielle dans 15,0% (12 patients). L'échec est présent dans.

3,8 % des cas (3 patients).Nous y reviendrons dans l'analyse des échecs.

Dans notre étude nous avons étudié l'efficacité du traitement exprimée en acuité visuelle finale, en gain de lignes d'acuité visuelle et réussite (totale, partielle ou échec [18]. Ainsi nous avons essayé d'analyser nos résultats selon différents paramètres que sont l'âge initial de prise en charge, l'étiologie de l'amblyopie, la profondeur de l'amblyopie

La plasticité des voies visuelles est effective durant la première décennie [26], ce qui suggère que le traitement de l'amblyopie doit être entrepris chez les enfants jusqu'à l'âge de 10 ans mais les périodes de développement visuel sont d'intensité différente selon l'âge de l'enfant ce qui suppose que l'âge de début de prise en charge contribue aux résultats finaux.

Pourtant, les données de la littérature rapportent des avis divergents. En effet, durant les 5 dernières années, beaucoup d'études ont indiqué que le traitement de l'amblyopie chez les enfants en bas âge donne de bons résultats, confirmant les résultats des études rétrospectives. Plus de 75% d'enfants amblyopes dont l'âge est inférieur à 7 ans ont une amélioration significative de leur amblyopie grâce au traitement [27].

Cependant, le traitement retardé peut avoir comme conséquence un important déficit visuel.

Selon Sen et Coll, il existe un lien entre l'âge de prise en charge et l'acuité visuelle finale, mais dans la population étudiée, il y avait 65 % d'adolescents et seulement 4 % d'enfants de moins de 6 ans.

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Epelbaum et latvala ML **[28,29],** sur une série d'enfants strabiques (407 enfants), ont montré que la récupération d'acuité visuelle était meilleure chez les enfants pris en charge avant 3 ans, et que l'efficacité du traitement diminuait après 5ans pour être inefficace vers 12 ans.

Par ailleurs de nombreux auteurs ont montré l'absence de corrélation entre l'âge initial de prise en charge et l'acuité visuelle finale **[30,19, 16]**. Dans leurs séries, l'âge de prise en charge initial était de 5 ans en moyenne.

Dans notre série, nous n'avons pas mis en évidence de différence significative pour l'acuité visuelle finale ou de la réussite en fonction de l'âge initial de prise en charge.

Par contre, en terme de gain, il existe une différence en faveur d'une consultation précoce vu qu'un retard de prise en charge d'une année entraine une perte de 0,211 ligne d'AV (p=0,041) (cf. tableau 4 ; gain en ligne d'acuité visuelle)

Aux vues des données de la littérature et de notre étude, il semble donc que la prise en charge précoce contribue à une meilleure récupération de l'acuité visuelle.

Les différents auteurs s'accordent pour retrouver des résultats meilleurs pour les amblyopies anisométropiques que pour les strabismes **[30, 18,31].**

Pour Cobb **[30],** l'acuité visuelle finale est meilleure pour les amblyopies anisométropiques pures (7,2/10) que pour les anisométropies strabiques (4,6/10).

Dans notre étude, nous ne retrouvons pas de différence statistiquement significative pour l'acuité visuelle finale, la réussite du traitement et gain en fonction de l'étiologie.

Néanmoins, nos résultats en terme d'l'acuité visuelle finale ; semblent être meilleurs pour les amblyopies réfractives (11 ,23/10), et les amblyopies strabiques pures (11,11/10) par rapport aux amblyopies strabiques avec anisométropie associée (9,64/10).

Les différents auteurs sont d'accord et rapportent que la récupération d'acuité visuelle est dépendante de la profondeur de l'amblyopie initiale [30, 16,25, 32].

Pour Woodruff [31], il s'agit même du principal facteur pronostic.

Nous avons retrouvé une différence statistiquement significative pour le gain en ligne d'acuité visuelle en fonction du degré d'amblyopie initiale ;

En effet plus l'amblyopie est profonde plus le gain d'acuité visuelle augmente (1,9 ligne d'AV par niveau de profondeur)

Nous expliquons cela par le fait que pratiquement tous nos malades ont une acuité visuelle finale élevée, par conséquent le gain en ligne d'acuité visuelle sera important dans les amblyopies profondes et aussi par la taille de l'échantillon.

Les complications de l'occlusion rapportées dans la littérature sont rares. Dans la série de Kutschke [16], une bascule a été observée chez 8 patients sur 124 avec récupération complète de l'acuité visuelle. Une surveillance régulière de l'œil non amblyope est donc nécessaire et suffisante.

Les rechutes sont survenues chez 10 patients. Elles ont été récupérées totalement dans 9 cas, partiellement dans 1 cas.

Cette complication rappelle la nécessité d'une surveillance étroite de ces patients durant toute La période de maturation des fonctions visuelles (première décennie).

D'autres auteurs **[32]** ont rapporté l'apparition rare d'une déviation consécutive à l'occlusion chez des patients présentant une amblyopie anisometropique isolée, par perturbation de la vision binoculaire. Pour l'éviter, il vaut mieux utiliser la pénalisation que l'occlusion. Il faut souligner que cette déviation est un bon signe de récupération de l'œil amblyope. Cette complication a été remarquée chez certains de nos malades.

Nos cas d'échecs ont été observés dans 3 cas. Il s'agissait de 3 patients avec strabismes pures, l'âge de consultation des patients se situait entre 2,5ans et 5 ans et les erreurs réfractives retrouvées étaient des hypermétropies variant de +4,50 à +13,50 sans astigmatisme associé. L'amblyopie initiale était moyenne dans 2 cas, légère dans 1 cas. Les causes d'échec retrouvées : un retard de consultation de 2,5ans pour deux malades et la mauvaise observance thérapeutique était la principale cause d'échec dans tous les cas et nous la retenons comme critère d'échec.

V. Conclusion

L'amblyopie correspond à l'existence d'une acuité visuelle réduite secondaire à une déprivation visuelle ou à des interactions binoculaires anormales.

La fréquence du suivi sera variable selon l'âge du patient et sa récupération. Ce suivi sera exigé jusqu'à l'adolescence devant le risque important de la récidive de l'amblyopie Par conséquent il faut souligner le rôle prioritaire de l'orthoptiste pour assurer le suivi en collaboration avec l'ophtalmologiste.

Dans notre série, les facteurs pronostiques influençant nos résultats thérapeutiques étaient l'âge de prise en charge et la compliance au traitement qui reste un élément clé du succès thérapeutique.

Le dépistage de l'amblyopie est fondamental, dès le plus jeune âge d'autant qu'il existe une situation à risque : strabisme, nystagmus, déprivation visuelle, anisométropie. L'amblyopie reste une urgence diagnostique et thérapeutique pour un bon pronostic et une amélioration notable de l'AV, d'où l'intérêt de

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sensibiliser les pouvoirs publiques à réaliser un examen ophtalmologique obligatoire dès la naissance, à 9 mois, ainsi qu'un contrôle visuel préscolaire mentionné sur le carnet de santé de l'enfant à 3ans et à 5ans.

Conflits d'intérêts:

Les auteurs déclarent ne pas avoir de conflit d'intérêts en relation avec cet article.

Légendes des Figures

Tableau 1 : Tableau résumant les données générales de nos malades

Donnees Generales	Nombre	Pourcentage %
Sexe masculin	43	53,8
Sexe féminin	37	46,3
Prématurité	2	2,5
SNN	11	13,8
Consanguinité	5	6,3
Retard mental	1	1,25
ATCD familiaux de strabisme	26	32,5
Nystagmus associé	7	8,8

Tableau 2 : Gain en ligne d'acuité visuelle

	Analyse univariée				Analyse multivariée			
	β	p	Intervalle de confiance : 95% Limite sup	limite inf	β ajusté	p	Intervalle de confiance : 95% Limite sup	limite inf
Retard de prise en charge	-0,195	0,102	-0,430	0,039	-0,211	0,041	-0,413	-0,009
Profondeur de l'ambblyopie	1,933	<0,001	1,397	2,469	1,901	<0,001	1,372	2,430
Souffrance néonatale	-0,275	0,673	-1,561	1,010	-0,243	0,660	-1,333	0,847
Nystagmus	1,751	0,031	0,165	3,336	1,182	0,091	-0,191	2,555
Etiologie	0,510	0,131	-0,154	1,175	0,500	0,085	-0,071	1,071

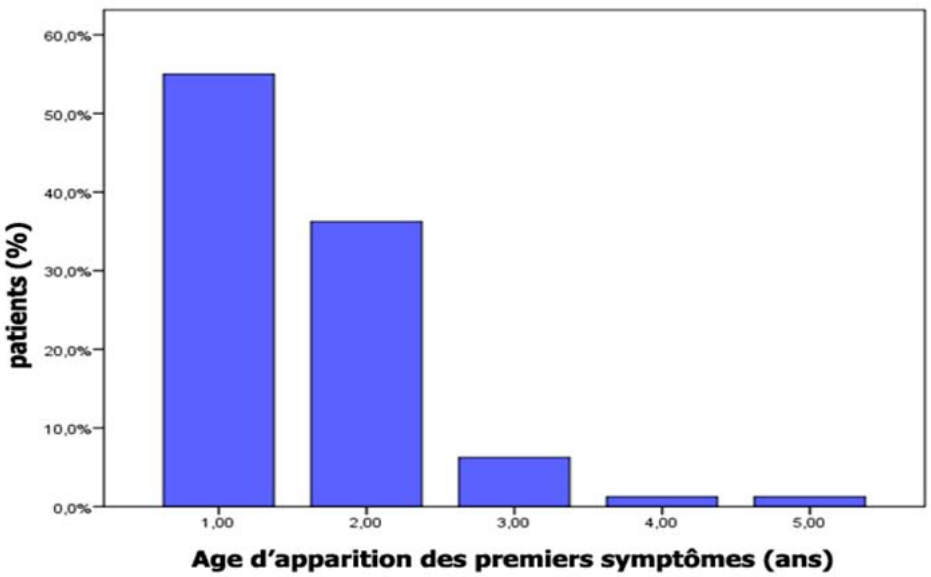


Figure 1 : Répartition des patients en fonction de l'âge de début des premiers symptômes

La majorité des malades ont présenté les premiers symptômes dans les deux premières années de leur vie.

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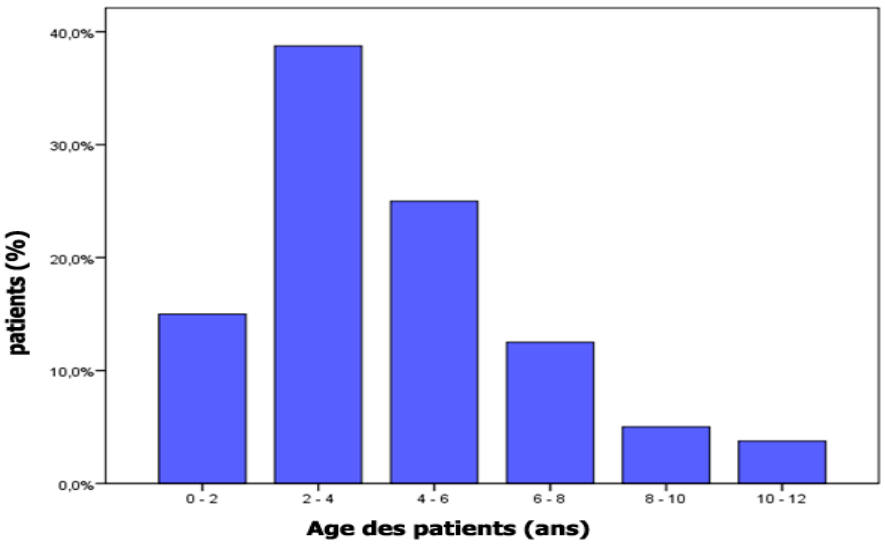


Figure 2 : Répartition des patients par tranche d'âge de prise en charge

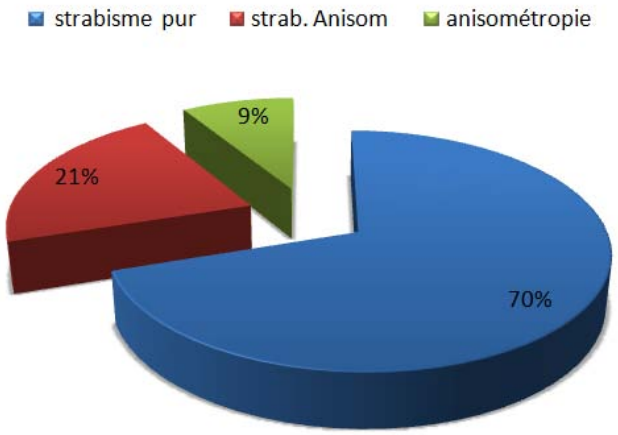


Figure 3 : Répartition des patients en fonction de l'étiologie de l'amblyopie

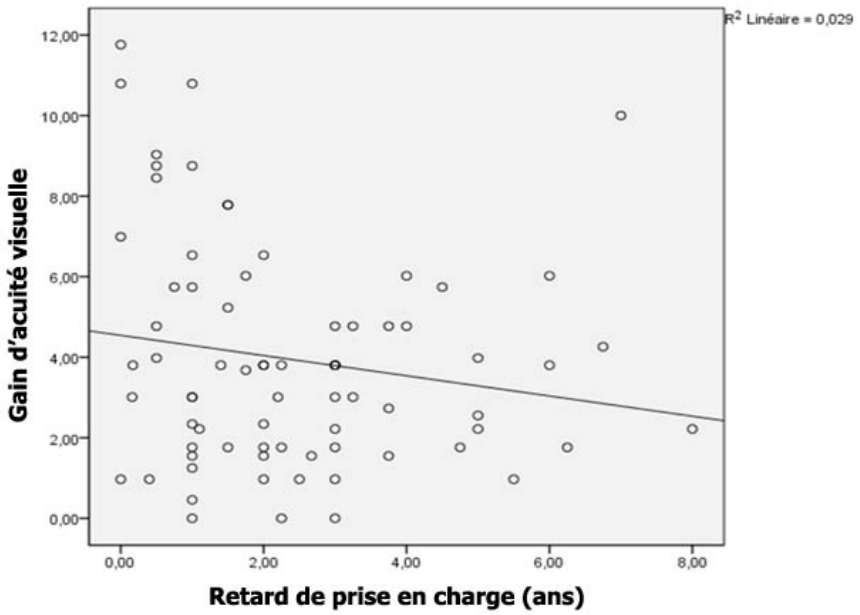


Figure 4 : le gain en acuité visuelle en fonction du retard de prise en charge

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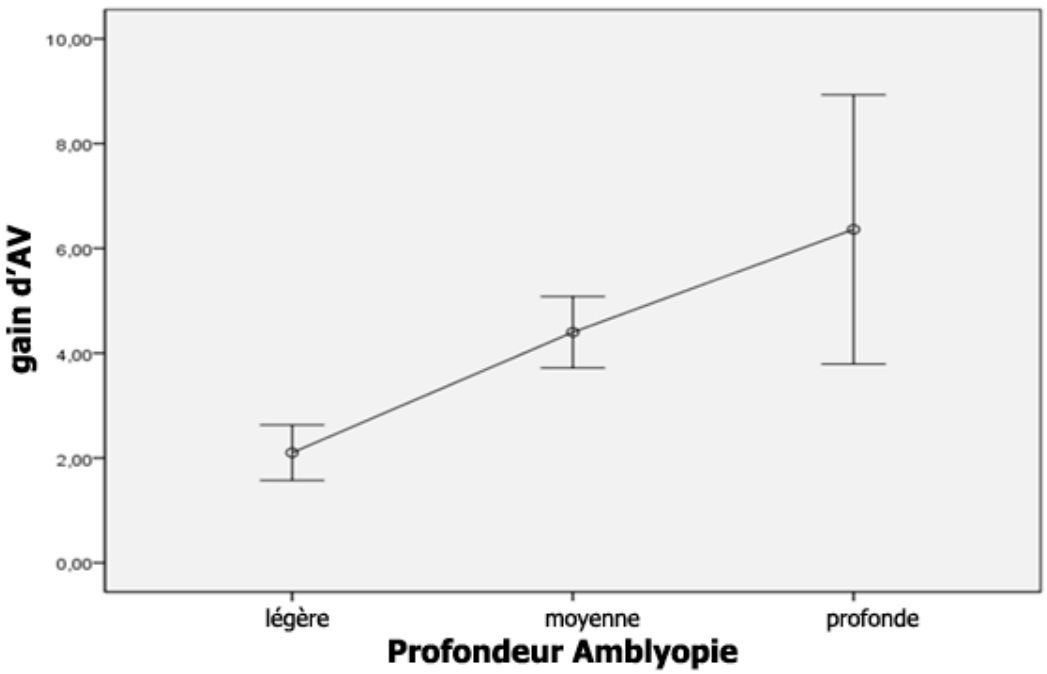


Figure 5 : Gain en ligne d'acuité visuelle en fonction de la profondeur de l'amblyopie

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Delayed Hospital Discharges; Could Pressure Sore Incidents in Fractured Neck of Femurs Patients and Elevated Nutritional Needs be a Contributing Factor?

By Anahita Dehbozorgi, Dr. Majid Khan & Dr. MJH Rahmani
West Middlesex University Hospital, United Kingdom

Abstract- *Background:* Development of pressure ulcer (PU) during hospital admission causes morbidity and distress to the patient, places immense strain on nursing resources and delaying patient's discharge and possibly increasing mortality rates. Fracture neck of femur (NOF) in the elderly population is recognised as a high-risk factor for development of PU.

Aims: The aim of this retrospective observational study was to analyse data to assess prevalence rates of PU development in NOF patients during hospital admission amongst the elderly population.

Methods: The data was collected from the National Hip Fracture Database (NHFD) on patients admitted with NOF between 1st April 2015 – 30th September 2015 in a Trauma and Orthopaedic Regional Centre Research Unit. East Sussex Hospital Trust.

Results: 258 patients with NOF were included in this study, predominantly females. NOF patients with PU were older and had prolonged average length of stay compared to patients with NOF without PU respectively (25.3 days Vs 19.2 days).

GJMR-K Classification: *NLMC Code: WF 330, WE 175*

DELAYEDHOSPITAL DISCHARGESCOULDPRESSURESOREINCIDENTSINFRACTUREDNECKOFFEMURSPATIENTSANDELEVATEDNUTRITIONALNEEDSBEACONTRIBUTINGFACTOR?

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Delayed Hospital Discharges; Could Pressure Sore Incidents in Fractured Neck of Femurs Patients and Elevated Nutritional Needs be a Contributing Factor?

Anahita Dehbozorgi [α], Dr. Majid Khan [σ] & Dr. MJH Rahmani [ρ]

Abstract- ***Background:*** Development of pressure ulcer (PU) during hospital admission causes morbidity and distress to the patient, places immense strain on nursing resources and delaying patient's discharge and possibly increasing mortality rates. Fracture neck of femur (NOF) in the elderly population is recognised as a high-risk factor for development of PU.

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Results: 258 patients with NOF were included in this study, predominantly females. NOF patients with PU were older and had prolonged average length of stay compared to patients with NOF without PU respectively (25.3 days Vs 19.2 days). Average body mass index (BMI) in NOF patients with PU was higher compared to patients with NOF without PU (24.45kg/m2 vs. 23.4kg/m2 respectively, $P = 0.038$). This study showed an increased incidence rate of PU in the higher age group and those with higher BMI.

Conclusions: Patients with NOF are at higher risk of malnutrition during hospital admission secondary to elevated nutritional requirements for wound healing and recovery. Therefore, authors recommend that all individuals are nutritionally screened on admission using a validated tool and commenced on appropriate nutritional support plan devised by specialist dietetic team.

I. Background

Malnutrition is defined as an imbalance of energy, protein and other macro/micronutrients, which lead to measurable adverse effects on body, physical function and clinical outcome. Although malnutrition has been associated with increased risk of falls (Lumbers et al, 2003), prolonged recovery time and accountable for a percentage of disability and death in the elderly population, (Hayes et al. 1996). Factors such as loss of appetite, unintentional weight loss, fatigue, depression and poor concentration levels have all been linked with malnutrition.

According to the Office of National Statistics report in 2000, the elderly population (classified as people aged over 65 years) account for 16% of the total population in the UK with an estimated rise to 20% by 2021. This population group has been identified at being at increased risk of malnutrition, with higher prevalence rates in those residing in nursing homes and those admitted to hospital. Additionally, physical abilities such as reduced mobility or being bedbound have also been associated with higher risk of malnutrition. Furthermore, BAPEN's Nutrition Screening Week surveys (2007-11) indicated that 25-34% of patients admitted to hospital are at risk of malnutrition. Public expenditures on disease related malnutrition in UK in 2007 exceeded £13 billion. It is well established that recognising and identifying the problem is the key in order to overcome malnutrition prevalence in the acute setting. Once individuals at risk are identified, implementation of easy measures such as increased caloric intake may be enough to reverse the downward cycle and prevent further deterioration.

a) *Neck of Femur Fracture (NOF), Pressure Ulcers (PU) and Malnutrition*

A neck of femur fracture (NOF) is defined as a hip fracture in which the neck of the thigh bone known as femur is partially or completely broken. Conditions such as diabetes, osteomalacia and osteoporosis, rheumatoid arthritis, hyperparathyroidism and maternal history of hip fracture have all been previously associated with increased risks of NOF fractures.

Nematy et al in 2006 illustrated that patients with fractured NOF were likely to be malnourished on admission and more importantly experienced significant rapid deterioration in their nutrition status during hospital admission. Dietetic intervention has also been highlighted as an integral part of patient care as fractured NOF patients continue to be in a hyper-metabolic state for three months' post-surgery which

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may lead to delayed hospital discharge, slower recovery rates or even readmission (Paillaud, et al 2000).

Furthermore, Myint et al, 2012 compared the use of a ready-to-use oral nutritional supplementation (ONS) containing 18–24 g protein and 500 kcal per day in addition to hospital diet with hospital diet only in 126 patients. Results indicated a significant difference in change in BMI with a decrease of 0.25 and 0.03 kg/m^2 in the ONS group and 0.72 and 0.49 kg/m^2 in the control group at hospital discharge and follow–up, respectively (P = 0.012). The length of stay in rehabilitation ward was also shortened by 3.80 (P = 0.04) days in the ONS group.

Development of PU during hospital admission causes morbidity and distress to the patient, places immense strain on nursing resources and consequently delaying patient's discharge and possibly increasing mortality rates. Traumas such as hip fractures in the elderly population are recognised as a high-risk factor for development of PU. According to a study by Haleem et al (2008) 3.8% of patients admitted to hospital developed PU. Factors such as increased age, diabetes mellitus, a lower mental test score, a lower mobility score were identified as contributing factors to the development of PU.

Incidence rates of between 8.8% and 55% have been so far reported. Lindholm et al (2008) showed 10% of patients had PU on admission but more importantly 22% developed PU on discharge. Furthermore, Rademakers et al (2007) demonstrated development of PU was associated with prolonged postoperative hospital stay (19.5 vs. 11.1, p = 0.001). The National Hip Fracture database report for 2013 also showed that 3.5% of patients admitted with fractured NOF developed PU during their hospital admission. These figures have improved noticeably from 3.7% in 2012 and 6% in 2010.

Nutrition is an important aspect of a comprehensive care plan for prevention and treatment of PU (Thomas et al 1996, 1997, Pinchcofsky-Devin et al 1986), and it is of paramount importance to address nutrition in every individual with PU by ensuring patients receive adequate calories, protein, fluids, vitamins and minerals required by the body for maintaining tissue integrity and preventing tissue breakdown.

NICE guidelines (CG179), 2014 and National Pressure Ulcer Advisory Panel in 2009 suggests a dietitian or other healthcare professional with the necessary skills and competencies should nutritionally screen adults with PU. The screening should be used as a tool in order to identify those with nutritional deficiencies and provide optimum nutrition care plans in which the use of nutritional supplements may be warranted.

b) Aims

To assess prevalence rates of pressure ulcer development in fractured neck of femur patients during hospital admission amongst the elderly population.

II. Method

The information shown has been collated from data entered on to the National Hip Fracture Database (NHFD) patients admitted with a fractured hip between 1st April 2015 – 30th September 2015. BMI information was sourced from the notes and EQ/ERP data from Trauma and Orthopaedic Regional Centre Research Unit. East Sussex Hospital Trust.

III. Results

A total of 258 patients with NOF (average age of 82.3 years) were included in this study, of which 69% (178/258) were females and 31% (80/258) were males. In addition, 4% (10/258) of patients with NOF developed PU during inpatient stay with a gender distribution of 60% (6/10) females and 40% (4/10) males. The average age of patients in the NOF and PU group was 84.4 years. NOF patients with PU had prolonged average length of stay compared to patients with NOF without PU respectively (25.3 days Vs 19.2 days). Average BMI in NOF patients with PU was higher compared to patients with NOF without PU (24.45kg/m2 vs. 23.4kg/m2 respectively, P = 0.038).

IV. Discussion

Findings from analytical data showed a 4% incident rate of PU development in NOF patients at East Sussex Hospital Trust which is a similar result to the recorded 3.5% rates by the National Hip Fracture database report for 2013. Many studies so far have highlighted the increased nutritional requirements in this vulnerable group however quite often despite attempted adherence to NICE nutrition guidance, involving nutritional screening tools, care plans and protected mealtimes; acutely unwell, malnourished patients are often not receiving their estimated nutritional requirements due to lack of adequate staffing on wards or assistant and encouragement required during meal times in order to optimise nutritional intake.

This study showed PU incident rate levels were predominately seen in the slightly higher age group, which could potentially be linked to lower dietary intake secondary to factors such as poor dentition, loss of taste and smell sensation contributing to lack of appetite, cognitive impairment/dementia, impaired vision, poor dexterity and changes in gastrointestinal function leading to constipation and/or impaired nutrient absorption. Moreover, findings indicated a higher PU incident rates in patients with a slightly higher BMI, although still within healthy range (18.5-25kg/m^2) as classified by WHO 2004. Two potential factors

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contributing to these results may include: 1) higher nutritional requirements for energy and protein of such patients not being met as they may be perceived as individuals with healthy BMI from observation, and 2) lack of mobilisation and being bed-bound during admission post-surgery and inadequate levels of regular turning/repositioning and monitoring of PU areas.

One of the major limitations of the study includes lack of data on establishing patient's nutritional intake during hospital admission in both groups and assessing whether estimated nutritional requirements were being met. Further studies to include other cofounding factors such as demographic data of the patients in the two groups and their predictive variables are required to confirm current findings.

V. Conclusions and Recommendations

Patients with NOF are at higher risk of malnutrition during hospital admission secondary to elevated nutritional requirements for wound healing and recovery. Often due to long period of hospital admission post-surgery, factors such as reduced mobility, infections, loss of appetite and change in living environment impact patient's dietary intake and result in inadequate nutritional intake. Patients who are bedbound and present with an overweight BMI are potentially at higher risk of developing PU during admission. However given the lack of eliminating possible cofounding factors such as patient's actual dietary intake during hospital admission, authors conclude that correlation does not imply causation.

In order to improve nutritional status in this vulnerable group of patients authors suggest that clinicians involved in the care of fractured NOF patients with or without PU should seek to ensure that all individuals are nutritionally screened on admission using a validated tool and commenced on appropriate nutritional support plan devised by registered dietitians, which may include provision of oral nutritional supplementation (ONS) to prevent weight loss during hospitalisation for hip fracture rehabilitation and potentially reduce length of stay.

Conflict of interest: none

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Cutis Laxa Syndrome: Clinical and Prognosis: A New Case Report

By Samia El Haouzi, Karman Abdellouahed & Rajae Daoudi

Summary- *Introduction:* cutis laxa syndrome is a heterogeneous group of disorders rare elastic tissue; Characterized by skin laxity associated with systemic manifestations variables. Congénital or acquired.

Case report: A 4-year-old chile, the last in a family of six, from a non-consanguineous marriage. No family related cases. For hospitalized pediatric pulmonary emphysema. Addressed to: ectropion of the right lower eyelid, entropion of left lower eyelid, the conjunctiva and hypertrophied hyperhémiées. anterior segment and background of normal eye.

General examination evoked facies cutis laxa. precociously senile appearance; stretchable skin mobilizing easily malformation syndrome. In our patient the multiple organ damage and the lack of familial cases are in favor of an autosomal recessive form is poor prognosis.

The patient died two weeks later in an array of respiratory failure.

Discussion: Cutis laxa (CL), or elastolysis, is a rare, inherited or acquired connective tissue disorder in which the skin becomes inelastic and hangs loosely in folds. The clinical presentation and the mode of inheritance show considerable heterogeneity. cutis laxa is a heterogeneous group of disorders clinically and genetically. Characterized by skin laxity, skin stretch, Results from various tissue abnormalities or acquired conjonctif.

Keywords: *cutis laxa, genetic disease, malformation syndrome.*

GJMR-K Classification: *NLMC Code: QV 60, QV 75*



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Cutis Laxa Syndrome: Clinical and Prognosis: A New Case Report

Le Syndrome De Cutis Laxa : Clinique Et Pronostic a Propos D'un Cas

Samia El Haouzi [α], Karman Abdellouahed [σ] & Rajae Daoudi [ρ]

Résumé- Introduction: Le syndrome de cutis laxa est un groupe d'affections hétérogènes très rare du tissu élastique; Caractérisé par une hyperlaxité cutanée associée à des manifestations systémiques variables. Congénital ou acquis.

Observation: Garçon de 4 ans, dernier d'une fratrie de six, issu d'un mariage non consanguin. Pas de cas similaire familial. Hospitalisé en pédiatrie pour emphysème pulmonaire. Adressé pour : ectropion de la paupière inférieure droite, entropion de la paupière inférieure gauche, conjonctives hypertrophiées et hyperhémiées.

Segment antérieur et fond d'œil normaux.

Examen général: faciès évocateur de cutis laxa. Aspect précocement sénile;

Peau extensible se mobilisant facilement, Syndrome polymalformatif.

Chez notre patient l'atteinte multiviscérale ainsi que l'absence de cas familiaux sont en faveur d'une forme autosomique récessive qui est de mauvais pronostic.

Evolution: décès deux semaines plus tard dans un tableau d'insuffisance respiratoire.

Discussion: Le cutis laxa est un groupe d'affections hétérogènes sur le plan clinique et génétique. Caractérisé par : hyperlaxité cutanée, peau extensible, Résulte d'anomalies diverses du tissu conjonctif. Congénital ou acquis.

Cutis Laxa congénital avec 3 formes : Autosomique dominante, Autosomique récessive, liée au chromosome X. Et Cutis Laxa acquis: secondaire soit à des affections inflammatoires de la peau, soit associé à diverses maladies (lupus, amylose,myélome multiple).

Conclusion: Affection exceptionnelle caractérisée par un polymorphisme clinique et génétique.

L'association décrite chez notre malade correspond à une forme autosomale récessive de très mauvais pronostic.

Mots clés: cutis laxa, maladie génétique, syndrome malformatif.

Summary- Introduction: cutis laxa syndrome is a heterogeneous group of disorders rare elastic tissue; Characterized by skin laxity associated with systemic manifestations variables. Congénital or acquired.

Case report: A 4-year-old chile, the last in a family of six, from a non-consanguineous marriage. No family related cases. For hospitalized pediatric pulmonary emphysema. Addressed to: ectropion of the right lower eyelid, entropion of left lower eyelid, the conjunctiva and hypertrophied hyperhémiées. anterior segment and background of normal eye.

General examination evoked facies cutis laxa. precociously senile appearance; stretchable skin mobilizing easily malformation syndrome. In our patient the multiple organ damage and the lack of familial cases are in favor of an autosomal recessive form is poor prognosis.

The patient died two weeks later in an array of respiratory failure.

Discussion: Cutis laxa (CL), or elastolysis, is a rare, inherited or acquired connective tissue disorder in which the skin becomes inelastic and hangs loosely in folds. The clinical presentation and the mode of inheritance show considerable heterogeneity. cutis laxa is a heterogeneous group of disorders clinically and genetically. Characterized by skin laxity, skin stretch, Results from various tissue abnormalities or acquired conjonctif.

Congenital Cutis Laxa with 3 forms: autosomal dominant, autosomal recessive, and X-linked Cutis Laxa acquired: either secondary to inflammatory conditions of the skin, is associated with various diseases (lupus, amyloidosis, multiple myeloma).

Conclusion: Exceptional condition characterized by clinical and genetic polymorphism.

The association described in our patient corresponds to an autosomal recessive form of very poor prognosis.

Keywords: cutis laxa, genetic disease, malformation syndrome.

I. Introduction

C'est une maladie génétique rarissime du tissu conjonctif dont le premier symptôme évident est un relâchement cutané. En latin CUTIS LAXA veut dire PEAU RELÂCHÉE. Elle touche aussi bien les hommes que les femmes et sa fréquence est mal connue. On peut estimer cependant qu'il y a probablement moins de 1000 cas dans le monde entier.[1]

II. Observation

Garçon de 4 ans, dernier d'une fratrie de six, issu d'un mariage non consanguin. Pas de cas similaire familial. Hospitalisé en pédiatrie pour emphysème pulmonaire.

Adressé dans notre formation pour larmoiement. L'enfant n'était pas coopérant pour l'acuité visuelle.

L'examen des annexes trouvait un ectropion de la paupière inférieure droite, un entropion de la paupière

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inférieure gauche (Figure 1), des conjonctives hypertrophiées et hyperhémiées. Le Segment antérieur et fond d'œil étaient normaux.

L'Examen général trouvait un faciès évocateur de cutis laxa, un aspect précocement sénile; une peau extensible se mobilisant facilement. Nombreux replis flasques au niveau du visage; un Syndrome polymalformatif, une voie rauque et des caries dentaires (Figure 2). On a noté également une hyperlaxité ligamentaire, une hernie inguino-scrotale et un emphysème pulmonaire.

L'Evolution était marquée par le décès de l'enfant deux semaines plus tard dans un tableau d'insuffisance respiratoire.

III. Discussion

La Cutis Laxa (mot latin pour Peau Lâche ou Relâchée) est une maladie rare du tissu conjonctif qui n'atteint qu'environ 400 familles dans le monde, soit 1 naissance sur 2000 000. Le tissu conjonctif, appelé aussi matrice extracellulaire, donne la charpente structurelle de nombreuses parties du corps comme la peau, les muscles, les articulations, les vaisseaux sanguins et même les organes internes. Le symptôme le plus évident de la Cutis Laxa est une peau ridée et pendante, spécialement sur le visage, le tronc, les bras et les jambes. La peau pend en plis et donne une apparence âgée. Il y a de nombreux types différents de Cutis Laxa, y compris une forme acquise ainsi que plusieurs formes héritées. Etant donné que la Cutis Laxa est causée par un défaut ou une déficience du tissu conjonctif, les symptômes cutanés sont aussi, et souvent, observés en conjonction avec des problèmes impliquant les systèmes respiratoire, osseux, intestinaux et cardiovasculaires. L'implication de l'un ou l'autre de ces systèmes corporels, s'il y en a une, dépend du type de Cutis Laxa et/ou de la cause génétique [2].

On décrit différents types de Cutis Laxa [3]: Cutis Laxa congénitale et acquise :

La Cutis Laxa Autosomale Dominante (ADCL) : Les symptômes de l'ADCL peuvent surgir à tout moment entre la naissance et le début de l'âge adulte. Chez certains patients, il n'existe que le symptôme de peau lâche. Cependant, certaines familles présentent également des caractéristiques faciales spécifiques concernant le nez et les yeux ainsi que des problèmes cardiovasculaires et pulmonaires tels que anévrisme aortique et emphysème. Une échocardiographie et un bilan des fonctions respiratoires sont recommandés chez ces patients afin d'identifier les complications pulmonaires et cardiaques avant qu'elles ne présentent un risque vital. Bien que la plupart des cas d'ADCL résultent de mutations sur le gène de l'élastine (ELN), il a été trouvé au moins une famille avec l'ADCL présentant une mutation du gène Fibuline-5 (FBLN5) qui est la cause de la Cutis Laxa Autosomale Récessive Type 1B (ARCL1B).

Cutis Laxa Autosomale Récessive (ARCL) :L'ARCL est divisée en plusieurs sous-types, basés à la fois sur des symptômes spécifiques et sur le gène qui est la cause de la maladie. L'ARCL est divisée en ARCL1, ARCL2, et ARCL3, elles-mêmes divisées ensuite en sous-types additionnels :

ARCL1A ou Cutis Laxa liée à FBLN5 (Fibuline 5) est caractérisée par une peau lâche, des hernies et une atteinte pulmonaire telle que l'emphysème et ce dès le plus jeune âge. Cependant il y a un grand degré de variabilité de l'âge d'apparition de ces symptômes, y compris au sein de la même famille. L'ARCL1A est due à des mutations sur le gène FBLN5.

ARCL1B ou Cutis Laxa liée à FBLN4 (EFEMP2) (Fibuline 4) est caractérisée par une peau lâche associée à des symptômes impliquant d'autres organes, plus précisément le système cardiovasculaire (problèmes artériels tels que tortuosité, anévrismes, sténoses), le squelette (laxité articulaire, doigts longs et fins, hernies et fragilité osseuse) et quelques caractéristiques morphologiques impliquant le visage et la tête (petit menton, haute voute palatine, yeux très espacés). L'ARCL1B peut être très sévère avec une espérance vitale très courte après la naissance, mais elle peut également se limiter aux vaisseaux sanguins et aux caractéristiques faciales mentionnées plus haut. L'ARCL1B est due à des mutations sur le gène FBLN4 (EFEMP2).

ARCL1C ou Cutis Laxa liée à LTBP4 est caractérisée par une peau lâche, associée à des problèmes pulmonaires, gastro-intestinaux et urinaires sévères. L'ARCL1C est aussi connue sous le nom de Syndrome Urban-Rifkin-Davis (URDS). L'ARCL1C est due à des mutations sur le gène LTBP4.

ARCL2A ou Cutis Laxa liée à ATP6V0A2 est due à des mutations sur le gène ATP6V0A2. Les individus atteints de ce type de Cutis Laxa ont une peau ridée sur la totalité du corps qui, typiquement, s'améliore avec l'âge. Les autres caractéristiques de ces enfants incluent une fontanelle antérieure élargie, une luxation des hanches à la naissance, des hernies, et une myopie. De nombreux individus ayant cette forme de Cutis Laxa ont un retard de développement sévère et des attaques. Le Wrinkly Skin Syndrome (Syndrome de la Peau Fripée), qui entraîne une peau ridée, une tête de petite taille et un retard mental, ainsi que des problèmes musculaires et osseux est provoqué par des mutations sur le même gène ATP6V0A2.

ARCL2B ou Cutis Laxa liée à PYCR1 est due à des mutations sur le gène PYCR1. Les signes cliniques de cette maladie comprennent une peau lâche donnant une apparence âgée, un retard de croissance, un retard de développement, des problèmes osseux et articulaires, une tête de petite taille, un grand front, un visage de forme triangulaire et de grandes oreilles.

ARCL3 ou Syndrome De Barsy a un phénotype commun avec ARCL2A et ARCL2B. Il provoque une

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Cutis Laxa avec retard de croissance, retard mental modéré à sévère, cataracte et laxité articulaire. D'autres problèmes de peau associés à la peau lâche contribuent à une apparence âgée. Typiquement, il ne présente aucuns symptômes cardiovasculaires ni pulmonaires. Chez certains patients, initialement diagnostiqués avec le Syndrome De Barsy, il a été retrouvé plus tard des mutations sur les gènes PYCR1 (ARCL2B), ATP6V0A2 (ARCL2A), ou ALDH18A1.

La Cutis Laxa Acquise: La Cutis Laxa Acquise apparaît habituellement chez les adultes. Bien que sa cause soit inconnue, elle a été observée chez certains individus après certaines expositions environnementales, telles que certains médicaments, des infections ou des maladies auto-immunes. La Cutis Laxa Acquise n'est pas transmise génétiquement. Cependant, un des axes des recherches menées par le Dr Zsolt Urban est de déterminer si certains individus peuvent avoir une prédisposition génétique à développer une Cutis Laxa après certaines expositions [4].

Chez notre patient l'atteinte multiviscérale ainsi que l'absence de cas familiaux sont en faveur d'une forme autosomique récessive qui est de mauvais pronostic.

Le diagnostic clinique évident et la Biopsie cutanée: confirme le diagnostic (raréfaction des fibres élastiques); les Manifestations oculaires (forme autosomique récessive): ectropion palpébral, blépharochalasis, hypertélorisme et prolapsus de la graisse orbitaire dans l'espace sous-ténonien, entropion…

Le diagnostic de la Cutis Laxa est généralement fait par un examen de la peau réalisé par un médecin spécialiste tel que Généticien ou Dermatologue. Le type spécifique de Cutis Laxa est déterminé par les symptômes associés, les informations contenues dans l'histoire familiale, et, dans certains cas, peut être confirmée par une analyse génétique. Cependant, certains patients avec ou sans identification clinique du gène causant leur Cutis Laxa, peuvent choisir de participer aux recherches menées par le Dr Zsolt Urban à l'Université de Pittsburgh. [5]

Après le diagnostic initial, les patients atteints de Cutis Laxa font des examens complémentaires au niveau cardiovasculaire et pulmonaire, tels que échocardiographie et est examen des fonctions respiratoires. Il n'existe pas de traitement des causes de la maladie. Seuls peuvent être traités les symptômesassociés suivant les protocoles habituels.

La prise en charge des individus atteints de Cutis Laxa inclue les traitements des symptômes, tels que interventions chirurgicales pour les hernies, des médicaments comme les bêta bloquants peuvent être considérés pour éviter l'aggravation des anévrismes aortiques, et l'emphysème pulmonaire est traité de façon symptomatique[6,7].

Un suivi régulier au niveau cardio-vasculaire et au niveau pulmonaire devrait être commencé dès la naissance ou juste après le diagnostic. Des déclencheurs environnementaux comme le tabagisme, qui peut aggraver l'emphysème, ou les bains de soleil, qui peuvent causer des dommages à la peau, doivent être évités, spécialement par les patients atteints de Cutis Laxa. Certaines personnes ayant une Cutis Laxa peuvent choisir d'avoir recours à la chirurgie réparatrice [8,9]. Bien que les résultats des opérations de chirurgie plastique soient habituellement très bons, il est possible que ces résultats ne soient pas stables dans le temps car la peau laxe peut réapparaître.

IV. Conclusion

Les pronostics de la Cutis Laxa varient en fonction de la forme de la maladie. Les effets peuvent être légers et certains individus ont une vie quasi normale, alors que pour d'autres la maladie peut être fatale [10].

Les formes transmises de la Cutis Laxa sont déterminées génétiquement et ne peuvent habituellement pas être prévenues. Le conseil d'un généticien peut être utile pour toute personne qui a eu un cas de Cutis Laxa dans sa famille. Les causes de la Cutis Laxa acquise ne sont pas connues et de ce fait, aucune mesure préventive ne peut être prise.

Le symptôme principal, et le plus évident, étant cutané, le retentissement psychologique de la Cutis Laxa peut être important dans les relations avec les autres. Un soutien psychologique est vivement conseillé.

Conflit d'intérêt:

Les auteurs déclarent ne pas avoir de conflit d'intérêts en relation avec cet article.

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Légendes des Figures



Figure 1 : Ectropion de la paupière inférieure droite et entropion de la paupière inférieure gauche



Figure 2 : Multiples caries dentaires

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Burnout and Social Support in Bafq's Miners

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Abstract- Objective: Concerning the nature of mining, miners a re more likely to suffer from different damages including burnout, which may damage the organization, besides its p hysical and mental damages to individuals. Social support a nd job satisfaction, on the other hand, can decrease burnout in the workplace. The present paper aims to identify the level of social support, job satisfaction and burnout among miners.

Methods: This investigation was a descriptive and analytical, cross-sectional study. 250 out of 700 miners working at Bafq'sIron OreMine were selected randomly to participate in t his study. To collect data, Maslach Burnout Inventory (MBI) and Adolescent Family Caring Scale (AFCS), besides some items on demographic characteristics and job satisfaction were used. The collected data were analyzed using SPSS Software, version 16, operating descriptive analysis and p earson Correlation Test, T-test, and Regression analysis.

Findings: The mean age of miners was 34.73±6.83. 90% of them were married and native residents. More than 70% of the subjects had mild emotional exhaustion and depersonalization, however, reduced sense of personal a ccomplishment was severe among more than 70% of workers. There was a significant correlation between burnout level and social support and its three dimensions $P<0.05$.

Keywords: burnout, social support, job satisfaction, miners, workers.

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Burnout and Social Support in Bafq's Miners

Mazloomy Mahmoudabad Seyyed Saeid [α], Ardian. Nahid [σ], Bazm Soheila [ρ] & Eslami Hadi [ω]

Abstract- ***Objective:*** Concerning the nature of mining, miners are more likely to suffer from different damages including burnout, which may damage the organization, besides its physical and mental damages to individuals. Social support and job satisfaction, on the other hand, can decrease burnout in the workplace. The present paper aims to identify the level of social support, job satisfaction and burnout among miners.

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Findings: The mean age of miners was 34.73±6.83. 90% of them were married and native residents. More than 70% of the subjects had mild emotional exhaustion and depersonalization, however, reduced sense of personal accomplishment was severe among more than 70% of workers. There was a significant correlation between burnout level and social support and its three dimensions $P<0.05$. The social support level was good enough among over 80% of the workers, besides, more than 58% of them reported more than average job satisfaction. There was a significant correlation between job satisfaction and burnout level ($p<0.05$). According to linear regression analysis, house ownership and job satisfaction were the best predictors of burnout.

Conclusion: More than two third of workers had no problem in terms of burnout. Also, levels of social support and job satisfaction were more than average among over 70% of workers. However the level of personal accomplishment feelings was very low, which can be studied further.

Keywords: burnout, social support, job satisfaction, miners, workers.

I. Introduction

Work in mines is one of the most dangerous jobs, all around the world. Among different jobs, accidents, especially those leading to death, happen in mines(1).Figures showed that 10% of accidents are due to hardware problems, while 90% happen because of problems of human forces. It is proved that working in mines causes different diseases and studies revealed that miners'life expectancy was considerably *shorter than* that of other worker (2). Nowadays, different mental and emotional pressures in job environment cause stress among people. Factors such as role confusion, lack of social support, and organizational changes, if continued, may lead to burnout(3). Burnout affects the individual, as well as his/her organization, and in a longer period of time may affects the society(4).

It is estimated that an average of 37 million workdays are lost due to mental disorders, neurological problems, and headache; and in many cases, burnout caused absence and workday loss(5). Scholars have defined burnout differently. Freuden Berger was the first one who defined this term in late 1960s. He had seen symptoms of exhaustion among his staffs and called it the staff burn out syndrom(6). The first one suffering from depression is the individual him/herself. Unsuitable work condition, thinking to be inefficient in the organization, lack of personal development and few opportunities to promote in the organizational hierarchy system are among factors causing burnout(7).

Burnout refers to the state of physical and mental exhaustion and lack of motivation which may causes absence, workday loss, and decrease in motivation, and in some cases leads to physical disorders and cardiovascular dysfunction(8).However, social support is introduced as a useful adjustment recourse to manage stressful circumstances in workplace and is known as a reducer of bad stressful effects of workplace(9-11). Social support refers to the interpersonal interaction with friends, colleagues, managers and other people which may include mutual, informal, automatic and useful exchanges(12). Job satisfaction is defined as the indicator of the level of interest in the job and enjoying doing that(13).

Some studies revealed that human services jobs caused burnout (15). However, it seems that research on miners, because of their hard work situation, is also possible. It is noticeable that economically, mines are part of national treasures; therefore, it is important to pay attention to miners' physical health and mental abilities.

Concerning the importance and difficulties of mining, the factors which provide the condition for burnout in this workplace, and limited studies done in this regard particularly on miners in Iran, the hypothesis of this study was "the levels of social support and job

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satisfaction have some influences on miners' burnout". Therefore, it aimed at investigating levels of burnout, social support and job satisfactions among mine workers.

II. Methods

This study was a cross-sectional, descriptive, and analytical study conducted to investigate the burnout, social support and job satisfaction among miners of Bafq. Bafq is a town in Yazd Province, having several iron ore mines. The population of Bafq is around 40000, and 10000, or in other words, most of the men in the town, work in iron ore mines. Since the town is located within a desert and is far from other cities, iron ore mines are the main working opportunities for the workers.

The statistical population under investigation included all workers who had worked in mines within the last year. The sample size, based on statistical formula, was estimated as 250 workers out of 700. Then a stratified random sampling was done to select appropriate proportion of workers working in different parts of the mine.

Having the consent of mine managers and workers to fill the questionnaire and ensuring them to remain anonymous and keep the information confidential, the selected miners filled the questionnaire. Moreover, the topic of study and the questionnaire were accepted by Ethical Committee of Shahid Sadoughi University of Medical Sciences, Yazd. The questionnaire was categorized into four parts including Maslach22-item Burnout Inventory, 12-item social support questionnaire, one question on job satisfaction, and the last part contained 14 items on demographic characteristics such as age, educational level, residency, income, employment, work shift, and number of children.

Maslach Burnout Inventory (MBI) was introduced by Maslach and Jackson in 1982 to measure burnout rate(16).This inventory consisted of 22 items which measure three aspects of burnout, 9 items dealt with emotional exhaustion, 5 items measured depersonalization, and 8 items were about reduced sense of personal accomplishment. The frequencies were estimated by scores ranged from 0 to 7 (never, a few times a year, once a month or less, a few times a month, once a week, a few times a week, every day).obtained scores were divided into three categories of low, average, and high. The scoring is reported in table 2. The higher the scores of emotional exhaustion, depersonalization, and reduced sense of personal accomplishment, the higher is the burnout level. Like other studies done in Iran(12, 17, 18). since the scores of frequency and severity were very similar and related and respondents were unable to distinguish them, The obtained scores of frequency and severity were alike; therefore, only burnout frequency is reported. The reliability of the questionnaire was confirmed according to other studied conducted in Iran (5, 19-21).

To measure perceived social support, Adolescent Family Caring Scale (AFCS) was used(22).This scale contained 12 items which measures three categories of perceived support from family (4 items), from other important people (4 items), and from friends (4 items). All the items were scored from 0 to 5 (strongly agree, agree, no idea, disagree, strongly disagree). The total score of this scale ranged from 12 to 60. In Iran, after translation of the questionnaire by Masoudnia and comments of psychologists to normalize the scale, internal reliability coefficient for three aspects were calculated, using Cronbach's alpha(23). In the present study, the internal coefficient of questionnaire's items, using Cronbach's alpha were .76, .80, .85; respectively.

To measure job satisfaction level, a three-point question (1-3) (little, average, much) was used. Demographic questions were about educational level, residency, income, employment, house ownership, and work experience. The collected data were analyzed by SPSS 16, and statistical figures were explained. Finally based on data distribution, parametric tests were used, and Pearson Correlation Coefficient, Chi-Square, T-test, ANOVA, and Regression analyses were operated.

III. Results

Miners' mean age was 34.73±6.83 .Among 250 miners working in the production section, 234 (93.6%) were male. 57 (24%) workers had primary education, 97 (40%) had Diploma, and 87 (36%) had university degrees. 215 (90%) of workers were native residents and 103 (43%) were permanent employees. 153 (64%) worked in shifts. 167 (69%) of them owned personal houses. 174 (84%) of workers had incomes less than 12 million Rials. 154 (76%) of them had two children. Concerning work experience, 26 (53%) had less than 10 years of experience. The level of workers' burnout in terms of emotional exhaustion, depersonalization, and reduced sense of personal accomplishment are reported in Table 1.

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Table 1 : Frequency of burnout and level of job satisfaction among miners

Burnout , job satisfaction dimensions	level	frequency	percentage
emotional exhaustion	low	175	72.6
	average	36	14.9
	high	30	12.4
depersonalization	low	184	75.1
	average	39	15.9
	high	22	9.0
Reduced sense of personal accomplishment	low	35	14.6
	average	36	15.1
	high	168	70.3
Job satisfaction	low	57	23.4
	average	82	33.6
	high	105	43.0

75% of miners had mild depersonalization and more than 72% of them had low emotional exhaustion. However reduced sense of personal accomplishment of around 70% of workers were sever. 70% of miners showed average and high job satisfaction.

Table 2 : Frequency of burnout among miners according to demographic characteristics

frequency of burnout demographic characteristics	Emotional Exhaustion			P value	Depersonalization			P value	Personal Accomplishment			P value
	severe N (%)*	moderate N (%)	mild N %		severe N %	moderate N (%)	mild N %		severe N (%)	moderate N (%)	mild N (%)	
					Educational (year)							
9	5(9.41)	8(15.1)	40(75.5)	.781	5(9.3)	4(7.4)	45(83.3)	.028	35(97.3)	12(23.1)	5(6.9)	.327
By 12	14(14.9)	12(12.8)	68(72.3)		12(12.6)	13(13.7)	70(73.7)		71(77.2)	9(8.9)	13(14.1)	
By 13	2(7.7)	5(19.2)	19(73.1)		1(3.8)	4(15.4)	21(80.8)		18(69.2)	4(15.4)	4(15.4)	
≥14	9(15.0)	10(16.7)	41(68.3)		3(4.9)	18(29.5)	40(65.6)		39(63.9)	10(16.4)	12(19.7)	
					Work experience							
≤10 years	2(7.4)	2(7.4)	23(85.2)	.984	0		29(100)	.090	16(57.1)	7(25.0)	5(17.9)	.502
>10 years	2(8.3)	2(8.3)	20(83.3)		3(11.5)	1(3.8)	22(84.6)		11(50.0)	4(18.2)	7(31.8)	
					Income (ten thousands Rials)							
>800	9(9.7)	15(16.1)	69(74.2)	.509	4(4.2)	17(17.9)	74(77.9)	.273	65(69.9)	15(16.1)	13(14.0)	.245
810-1200	13(17.1)	10(13.2)	53(69.7)		10(13.2)	13(17.1)	53(69.7)		57(76.0)	5(6.7)	13(17.3)	
<1200	3(9.1)	7(21.2)	23(69.7)		2(5.9)	5(14.7)	27(79.4)		21(61.8)	7(20.6)	6(17.6)	
					Type of the job							
shiftwork	19(12.9)	23(15.6)	105(71.0)	.971	16(10.6)	23(15.2)	112(74.2)	.507	102(70.3)	21(14.5)	22(15.2)	.961
Regular working hour	11(13.3)	12(14.5)	60(72.3)		5(6.1)	14(17.1)	63(76.8)		57(68.7)	13(15.7)	13(15.7)	
					Type of employment							
permanent	12(12.0)	16(16.0)	72(72.0)	.544	9(9.0)	20(20.0)	71(71.0)	.424	71(71.7)	15(15.2)	13(13.1)	.756
contract	16(12.6)	18(14.2)	93(73.2)		13(10.0)	16(12.3)	101(77.7)		85(67.5)	21(16.7)	20(15.9)	
					Number of children							
≤2	7(11.3)	29(19.3)	104(69.3)	.232	16(10.5)	22(14.5)	114(75.0)	.543	105(69.5)	22(14.6)	24(15.9)	.698
>2	27(15.7)	4(8.9)	34(75.6)		3(6.7)	9(20.0)	33(73.3)		32(76.2)	5(11.9)	5(11.9)	
					House ownership							
owner	20(12.3)	29(17.8)	114(69.9)	.433	20(12.0)	23(13.9)	123(74.1)		117(73.1)	22(13.8)	21(13.1)	.477
renter	9(12.9)	7(10.0)	54(77.1)		1(1.4)	16(22.9)	53(75.7)	.027	47(65.3)	12(16.7)	13(18.1)	

Emotional Exhaustion (low = <13, moderate = 14–20, high = >21).DP, Depersonalization (low = <4, moderate = 5–7, high = >8).PA, Personal Accomplishment (low = >34, moderate = 33–29, high = <28).

N* unequal relate to missing some of item

There was a significant difference between workers' scores on depersonalization and their house ownership P<.005. The difference between scores of depersonalization and educational level was also significant. P<.005.

There was no significant difference between scores of emotional exhaustion, depersonalization, and reduced sense of personal accomplishment and demographic characteristics of miners, including number of children, work experience, income, type of work, type of employment (Table 2)

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Table 3 : Correlation Coefficient between three aspects of burnout and three aspects of social support and job satisfaction

	dimensions of Burnout, Social Support, job satisfaction	1	2	3	4	5	6	7
1	Emotional Exhaustion	1						
2	Depersonalization	r=0.677**	1					
3	Personal Accomplishment	r= -0.332**	r=-0.206**	1				
4	Friend support	r =-0.196*	r= -.249**	r= 0.194*	1			
5	Family support	*r =-0.199	r= -0.199*	r= 0.196**	r=0.455**	1		
6	Other support	r =-0.347**	r= -.308**	r= 0.224**	r=0.700**	r=0.446**	1	
7	Job satisfaction	**r = -0.531	r= -.341**	r= 0.438**	r=0.232*	r =0.136*	r=0.377**	1

*P<0.05 **p<0.001

The burnout level significantly and negatively correlates with three dimensions of social support and job satisfaction. This correlation was negative that is, the more social support and job satisfaction levels, the less was burnout level.

The relationship between depersonalization and social support and job satisfaction was significantly negative. However reduced sense of personal accomplishment correlate with job satisfaction and social support, significantly and positively.

Table 4 : Linear regression analysis between three aspects of burnout and job satisfaction and predictor variables

(Constant)	Emotional exhaustion	Depersonalization	Personal accomplishment	Job satisfaction
Friend Support	-.056	-.188	.152	**-.013**
Family Support	-.179	-.065	.230*	**-.008**
Others Support	-.688	-.147	.080	**.255****
Job Satisfaction	-3.912**	-1.070**	2.213**	

*P<0.05 **p<0.001

Based on results of regression analysis, job satisfaction was the best predictors of emotional exhaustion and depersonalization levels. The Reduced sense of personal accomplishment were predicted better by job satisfaction and family support. (Table 4)

IV. Discussion

Based on the findings, mild emotional exhaustion and depersonalization and severe reduced-sense of personal accomplishment were shown among miners which was different from some studies (5, 24, 25)and in accordance with some other(6, 12, 21, 26, 27). Although working in offices and organizations in big cities leads to sever burnout(24, 25), it seemed that the low level of burnout among 70% of miners is due to cultural, economic, and social characteristics of the majority of workers which caused low burnout in terms of emotional exhaustion and depersonalization , since similarity in economic and social basis of native workers leads to less conflict and tensions and consequently less emotional exhaustion and depersonalization. Experts believe that average and severe emotional exhaustion relates to the role conflict and interpersonal conflicts(6). However, in accordance with other studies, in this study reduced sense of personal accomplishment were severe(6, 12, 27).these feelings are revealed by lower efficiency and job dissatisfaction, feelings of failure, losing recognition and understanding ability. Success and domination are achieved when the individual can affect the policies of the respective organization, and therefore, show his/her capabilities and will take positive attitudes toward himself/herself and clients(25). it seemed that in this paper, based on the results, lack of positive attitude and feelings of effectiveness in the policy making process of the organization led to lower sense of personal accomplishment. Contrary to some studies in which the higher level of education resulted in lower burnout level (24, 25, 28).

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In accordance with another study(29), in the present study, there was no significant difference between miners' educational levels and burnout levels. However, the mean score of depersonalization was significantly different from their educational level. Depersonalization refers to the mental detachment from one's occupation(30) .it can be said that this detachment and negative reaction lessened as the educational level increased. However, since 75% of the workers had associated degree or less. Maybe because of the relative similarity in the educational levels of most of the miners, mean scores of emotional exhaustion and reduced sense of personal accomplishment were not significantly different from educational levels.

Mean scores of emotional exhaustion and the miners' work experience were not significantly different. However, greater percentage of workers with less than 10 years of experience, had lower burnout. This finding was different from some other studies'(5, 16, 31, 32) but showed that there was no significant difference between work experience and total burnout scale. Probably, factors other than work experience affected the burnout level of the workers studied(30).

In accordance with other studies, the difference between income level and mean score of burnout was not significant(5, 26, 33). It seemed that income level did not caused higher levels of burnout among the miners, since the income of most of them were similar to each other. While the minimum wage of workers in Iran, determined by the Supreme Labor Council, was 4,300,000 Rials, more than 80% of the workers received between 8,000,000 to 12,000,000Rilas.

Probably, native workers, considering the living environment in Bafq and relative income satisfaction, were far from severing burnout. Those who had great expectations and got a job full of motivation, hopes and ideals are more likely to suffer burnout(33).

As the results showed, 64% of the workers under study worked in shifts and 67% of them were contract employees. Although in some studies the working condition affected burnout (34) in the present study, no significant relationship was seen between the mean score of burnout and type of employment (permanent, contract) and type of working (shift working, regular working hour). It may be said that other factors, different from type of employment and work, influenced the workers' burnout.

House ownership at the native residents' point of view is very important, which includes 90% of the workers in Bafq. The effect of house ownership in burnout was shown in this study and those who had a private house experienced lower burnout. Probably, workers in the small traditional town of Bafq, by adherence to their traditions, had less dissatisfaction and burnout. Burnout can be correlated with type of job, job satisfaction and also social life and personal relationship (35, 36)

Around 75% of the miners had average to high job satisfaction and there was negatively significant correlation between job satisfaction and burnout. The negative correlation of job satisfaction and burnout was also reported by other researchers(4, 11). Concerning different factors which make working in mines susceptible to burnout, job satisfaction leads to less burnout among the workers under study.

Although some studies did not find any relationships between social support and burnout(13, 37), the present study showed the significantly negative correlation of social support with emotional exhaustion and depersonalization. This result showed in other studies (29, 38-40)and significantly positive correlation of social support with lack of sense of personal accomplishments, that is, the more the social support in the family, the more was the sense of personal accomplishments(11, 28, 41). Bataineh said that designing support systems are one of the most important factors which increase individuals' resistance against burnout. In fact, Bataineh believed that strong support systems were the bases of professional and occupational promotion in the workplace, and these systems reduce the sensitivity of individuals to burnout, quitting and changing the job(35).One of the best methods to confront psychological pressure is looking for support from reliable members of belonging colleagues, family or social group(9, 42). The present study revealed that job satisfaction was the best predictors of burnout; however the determining role of job satisfaction in three aspects of burnout was noticeable.

Limitations of the study: one of the shortcomings of the study refers to the similarity of the samples. Most of them were native residents and their demographic characteristics were relatively similar. This may reduce the generalizability of the results. Besides, since job satisfaction is an important factor in determining the burnout level, other studies can be done on it using more valid and standard questionnaires to investigate that.

V. Conclusion

In general, it can be said that relatively lower levels of emotional exhaustion and depersonalization among the workers depends on the environment and social conditions, as well as working conditions. Accordingly, Miners in Bafq had appropriate condition in terms of social support and job satisfaction and consequently lower burnout. However, the low level of the sense of personal accomplishment should be studied further.

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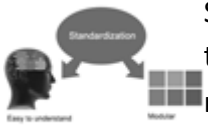


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1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

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Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

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Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
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The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

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Approach:

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Approach:

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What to keep away from

- Resources and methods are not a set of information.
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The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.



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Content

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- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
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Approach

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- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
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- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
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Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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