ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

THE IMPACT OF EPISTAXIS ON QUALITY OF LIFE FOR PRIMARY SCHOOL CHILDERN IN DAKAHLIA GOVERNORATE, EGYPT

Huda M. EL-Baz [1], Khalid A. Mohammed [2], Hanaa S. Said [3]

[1]Resident of family medicine in Sanafa Family Health Center – Mit-Ghamr City DakahliaGovernate, Egypt.

[2]Department of Ear, Nose and Throat, Faculty of Medicine, Zagazig University, Egypt.

[3]Department of Family Medicine, Faculty of Medicine, Zagazig University, Egypt.

Corresponding author:

Name: Huda Mohamed EL-Baz

Postal address: 44519, Egypt

Email address:Dedo.m7med567@gmail.com

Number of tables and figures: (7) tables, (7) figures

ABSTRACT

Background: Epistaxis is a common pediatric complaint, and it has a significant impact on quality of lifeamong primary school children.

Objectives: To assess the impact of epistaxis on quality of life in primary school children age group from 6 to 12 years.

Methods: a cross-sectional study was conducted on 312 child.Sample was collected by systematic random technique from the children attending the previously mentioned health unit asking for any medical service from the health units. We give questionnaire to every fourth child comes to the unit to reach 20 children per day and we collect data day after day, 3 times per week.Participants' data regarding quality of lifewas collected via Pediatric Quality of Life questionnaire.

Results: Epistaxis affectson quality of lifeof the child. Itaffected on physical activities, emotional status, social activities and school activities among the children had epistaxis.

Conclusion: Recurrent epistaxis can be troublesome and alarming for parents and children. and patients having epistaxis reporting a significant impact on quality of life by affecting on physical activities, emotional status, social activities and school activities among the children had epistaxis.

Keywords: Epistaxis, Quality of life, Impact, Children, School.

INTRODUCTION

Hemorrhages from the nasal cavity are called epistaxis or nose bleeds. Epistaxis is not a disease; it is a symptom. It is a highly common ear, nose and throat emergency. Yet its exact prevalence is not known, and studies report a wide range about 60% cases in the population, with only 6% of those seeing a physician. Epistaxis is rarely life threatening but may cause significant concern, especially among parents of young children. **(1)**

Children may be more prone to nose bleeds due to the extensive vascular supply and increased frequency of upper respiratory tract infection. The natural history of the problem is one of intermittent, recurrent and usually minor nose bleeds that mostly nonspontaneous, but which can cause alarm. **(2)**

affecting up to 56% aged 6-10 years and around 9% of teenaged population. **(3)**Sever and recurrent forms of epistaxis consistent a major trouble to the parents and treating doctors. Causes of recurrent epistaxis look different between adult and children regarding frequency distribution of such Causes. **(4)**

The etiology of epistaxis can be divided into local or systemic causes, although this distinction is difficult to make and the term "Idiopathic Epistaxis" represents about 80-90% of the cases. The etiological profile of epistaxis has been reported to vary with age and anatomical location. Traumatic epistaxis is more common in younger individuals and is most often due to digital trauma, facial injury, or a foreign body in the nasal cavity. Non-traumatic epistaxis is rare in children and may due to systemic diseases and environmental factors (temperature, humidity, altitude). Epistaxis that occurs in children younger than 10 years usually is mild and originates in the anterior nose.**(5)**

There are many effects on quality of life the studied patients. These are noted in anxiety, absenteeism, irritable and depression. The causes may be site of blood and discomfort from the cause of nose bleeding. Majority of the patients were either reviewed or managed in the accident and emergency department or ear, nose and throat clinic. The associated complications during first review were mild anaemia, vomiting which contained altered blood and recurrent epistaxis.**(6)**

RESEARCH QUESTION

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

How epistaxis affectson quality of life of primary school children?

METHODS

Study design and sampling method

A cross-sectional study was conducted on 312 child. As the total attendance rate of the target aged children at Sanafa – Mit-Ghamr Family Health Center was 1740 in six months and the prevalence of epistaxis is 56%[3], power of the study 80%, CI 95% by open epi program version 3.

Sample was collected by systematic random technique from the children attending the previously mentioned health unit asking for any medical service. Researcher given questionnaire to every fourth child comes to the unit to reach 20 children per day and data was collected day after day, 3 times per week.

Study participants and data collection

A predesigned Pediatric Quality of Life questionnairefulfilled by the researcher by personal iterview of the child's guardian (mother, father) attending with the child.[7]

Administrative approval

Official permissions was obtained from the scientific ethical committee of the family medicine department.Official approval letter was taken to the manager of the Family Health Center to obtain the information from children attending to the center.

Ethical approval

All subjects in this study were interviewed after taking their consent (child's parents) and confidentiality of information's is assured. Approval was obtained from (IRB) #;4611/16-5-2018 An Institutional Review Broad at the faculty of medicine, Zagazig University.

Statistical analysis

The collected data were computerized and statistically analyzed using SPSS program (Statistical Package for Social Science) version **25**.**0**.

Quantitative data were expressed as mean ± SD (Standard deviation).

ANOVA F-test test was used to calculate difference between quantitative variables in more than two groups in normally distributed data.

Pearson correlation coefficient used to calculate correlation between quantitative variables.

RESULTS

In this study, regarding Quality of life (QOL) we found that epistaxis affected on physical activities, emotional status, social activities and school activities among the children had epistaxis.

The most affected physical activities often among the studied cases were suffering pain, lethargy and difficulty in walking (36.6% & 29.7% & 34.7%). (Table 1), (Figure 1).

The most common emotional findings among the studied cases were worry, angry,fear and sad (41.6% & 32.7% & 34.7% & 35.6% respectively) (Table 2), (Figure 2)

The most affected social activity among the studied cases were can`t doing normal things or playing (48.5 & 55.4% respectively). (Table 3), (figure 3)

The most common findings in school activity among the studied cases were foregetness and can`t do school activities (36.6% & 35.6% respectively). (Table 4), (Figure4)

Total QOL score ranged from 56 to 115 with mean 88.16. (Table 5)

There were statistical significance decrease in all QOL scores among sever and moderate cases compare to mild. (Table 6)

(Table 7) shows that there were –ve statistical significance correlation between epistaxis duration and QOL scores among the studied cases.

DISCUSSION

Epistaxis, bleeding from the nose, is a communal grievance. It is rarely life threatening but may cause significant concern, especially among parents of small children. Most nosebleeds are benign, self-limiting, and spontaneous, but some can be recurrent. Many uncommon causes are also noted.[8]

Focusing on the patients' psychological and social well-being in addition to their physical health is an essential requirement in accordance with the WHO definition of health and well-being. Pediatric quality of life studies that investigate the individuals' perceptions of their well-being in a multidimensional aspect (physical and

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

psychosocial dimensions) are a relatively new field of research internationally and meeting professional requirements in a pediatric population brings more difficulty than in adults.[7]

In this study, regarding Quality of life (QOL) of physical activity among the epistaxis cases, the most affected physical activities often among the studied cases were suffering pain, lethargy and difficulty in walking (36.6% & 29.7% & 34.7%). The most common emotional findings among the studied cases were worry, angry,fear and sad (41.6% & 32.7% & 34.7% & 35.6% respectively). The most affected social activity among the studied cases were can`t doing normal things or playing (48.5 & 55.4% respectively)**.**The most common findings in school activity among the studied cases were foregetness and can`t do school activities (36.6% & 35.6% respectively).

Total QOL score ranged from 56 to 115 with mean 88.16.There were statistical significance decrease in all QOL scores among sever and moderate cases compare to mild.

The results of this study are supported by study of **Davies et al.** as they reported that Quality of life was significantly affected in 10% of cases with primary parental concerns being fear of excessive blood loss and the stress of soiled bedclothes and night wear. Children were most affected by the negative impact on sporting activity. [9]

Also, **Davies et al.,** found that the children who were affected by daily bleeds reported higher total stress scores secondary to the disruptive effect on school and classroom activities. [9] The study by **Damrose and Maddalazzo**reported 34% cases with daily episodes and 45% patients with at least weekly bleeds, which reiterates recurrent epistaxis to be a significant problem. The duration of each episode in their study was variable, most commonly lasting less than 10 min.[10]

The study foundedThere were –ve statistical significance correlation between epistaxis duration and QOL scores among the studied cases.**Berkes et al.,** found that there was no statistically difference among cases and control as regard school achievement.[7]

Merlo et al,reported that the Epistaxis Severity Score (ESS) tool measures epistaxis severity and previous studies have demonstrated a strong, reliable correlation between ESS and Health-related Quality of Life (HR-QOL). The ESS identifies the frequency, duration, and intensity of bleeding episodes as well as whether or not the patient is currently anemic, has sought medical attention or required red blood cell transfusion as a direct result of nasal blood loss. A patient with severe epistaxis typically has a diminished overall QOL.[11] Decreasing epistaxis severity will significantly improve health related QOL, as demonstrated by several former studies. As an example, **(Merlo et al,** studied that severe epistaxis, measured using ESS, was associated with significantly lower scores in both mental and physical domains in Health-related QOL.[11]

Brown and Berkowitz., reported that acute epistaxis in healthy children that requires hospital admission is generally not a marker for an underlying bleeding disorder. It is associated with a short inpatient stay, and usually requires minimal intervention.

Their study performed on a 10-year retrospective review of admissions with acute epistaxis under the Otolaryngology Department in a tertiary pediatric center. There were 14 cases (11 males, 3 females), with mean age 7.8 years (1.9–18.3 years). 3 patients had a history of recent aspirin ingestion, and one had sustained nasal trauma. Mean hemoglobin at presentation was 105 g/L (75–150), and no patient was diagnosed with a bleeding disorder. 4 patients underwent surgical intervention, and one patient received a blood transfusion . The mean length of hospital stay was 3.6 days (2–14 days). [12]

CONCLUSIONS:

Pediatric epistaxis is a condition commonly faced by both primary health care physicians and otolaryngologists. Recurrent epistaxis can be troublesome and alarming for parents and children. Epistaxis affects on Quality of life (QOL) of the child by affecting on physical activities, emotional status, social activities and school activities among the children had epistaxis.

RECOMMENDATIONS:

Raising awareness of simple management strategies among parents and Primary care physicians (PCPs) could significantly reduce the stressand quality of life impact associated with this common condition.Other researches on wider range should be applaied to include more areas in the governorate and whole Egypt.Preventive measures must be taken against epistaxis to decrease incidence of bleeding. Intensify the role of family physician (GP) in controlling bleeding as he is the first contact with patient. Schools also should be interested about the diseased students and give them special care by nursing them routinely as they more anemic than others, less in attention in class, used to absent to do to doctor or hospitals.

Authors' contribution: HMEL contributed to the planning of the work, drafting of the work, statistical analysis, reporting, revision of the manuscript, approval of the final version of the manuscript, and agreed to all aspects of

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

the work. HSSE contributed to planning of the work, drafting of the work, literature review, data collection, revision of the manuscript, approval of the final version of the manuscript, and agreed to all aspects of the work.

Study limitation: The finding presented in this study representing only a rural area (Sanafa_Mit-Ghamr) so we can't generalizethese results on all the country. Uncooperating of some participants especially healthy ones so it took many time for searching other childrens.

Conflict of interest: No conflict of interest.

Funding: No fund.

REFERENCES

1. Yenigun A. &Akyuz S. (2015):Prevalence of Allergic Rhinitis Symptoms and Positive Skin Prick Test Results in Children with Recurrent Epistaxis.British Journal of Medicine and Medical Research, 7(3):241-246.
2. Khan I. &Kubba H. (2014): Evidence-based management of paediatric epistaxis. Journal of ENT masterclass, *7*(1): 10-13.
3. Saafan M. E. & Ibrahim W. S. (2013): Role of bacterial biofilms in idiopathic childhood epistaxis. *European Archives of Oto-Rhino-Laryngology*, *270*(3): 909-914.
4. Wahab M. S. A., Fathy H., Ismail, R. & Mahmoud N. (2014):Recurrent epistaxis in children: When should we suspect coagulopathy? *The Egyptian Journal of Otolaryngology*, *30*(2): 106-111.
5. Al Masum S. H. I., Arsalan A. J. & Begum D. (2015): Epistaxis in Children: Aetiology, Management and Outcome. *Bangladesh Journal of Child Health*, *39*(2): 73-76.
6. Adegbiji, W. A., Olajide, G. T., Olatoke, F., &Nwawolo, C. C. (2018). Clinico-Epidemiological Pattern and Treatment of Epistaxis in a Tertiary Hospital in South Western Nigeria. *International Journal of Otolaryngology and Head & Neck Surgery*, *7*, 1-10.
7. Berkes A., Pataki I., Kiss M., Kemény C., Kardos L., Varni J. W. &Mogyorósy G. (2010): Measuring health-related quality of life in Hungarian children with heart disease: psychometric properties of the Hungarian version of the Pediatric Quality of Life Inventory™ 4.0 Generic Core Scales and the Cardiac Module. Health and quality of life outcomes, 8(1), 14.
8. Iqbal M. & Ahmed W. (2015): Epistaxis: Its Prevalence in IDPs of North Waziristan Agency. American Journal of Clinical and Experimental Medicine, 3(5), 233-236.
9. Davies, K., Batra, K., Mehanna, R., & Keogh, I. (2014). Pediatric epistaxis: epidemiology, management & impact on quality of life. International journal of pediatric otorhinolaryngology, 78(8), 1294-1297.
10. Damrose, John F., and John Maddalozzo (2006). "Pediatric epistaxis." The Laryngoscope 116.3 (2006): 387-393.
11. Merlo, C. A., Yin, L. X., Hoag, J. B., Mitchell, S. E., & Reh, D. D. (2014,) November. The effects of epistaxis on health-related quality of life in patients with hereditary hemorrhagic telangiectasia. In International forum of allergy & rhinology (Vol. 4, No. 11, pp. 921-925).
12. Brown, R.G. Barkowitz, (2004). Epistaxis in healthy children requiring hospital admission, Int. J. Pediatr. Otolaryngol. 68 1181–1184.

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

Table (1): QOL of physical activity among the epistaxis cases

Variable		**(*n*=101)**	
		No	**%**
Difficulty in walking	Never	46	45.5
	Almost never	20	19.8
	Sometimes	35	34.7
Difficulty in running	Never	40	39.6
	Almost never	18	17.8
	Sometimes	28	27.7
	Often	15	14.9
Difficulty in sport activities	Never	31	30.7
	Almost never	25	24.8
	Sometimes	30	29.7
	Often	15	14.9
Difficulty in Lift heavy things	Never	38	37.6
	Almost never	16	15.8
	Sometimes	26	25.7
	Often	19	18.8
	Almost always	2	2
Difficulty in washing alone (having shower)	Never	75	74.3
	Almost never	17	16.8
	Sometimes	7	6.9
	Often	2	2
Difficulty in normal activities	Never	44	43.6
	Almost never	19	18.8
	Sometimes	34	33.7
	Often	3	3
	Almost always	1	1
Suffering pain	Never	22	21.8
	Almost never	12	11.9
	Sometimes	34	33.7
	Often	30	29.7
	Almost always	3	3
Lethargy	Never	25	24.8
	Almost never	10	9.9
	Sometimes	28	27.7
	Often	37	36.6
	Almost always	1	1

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

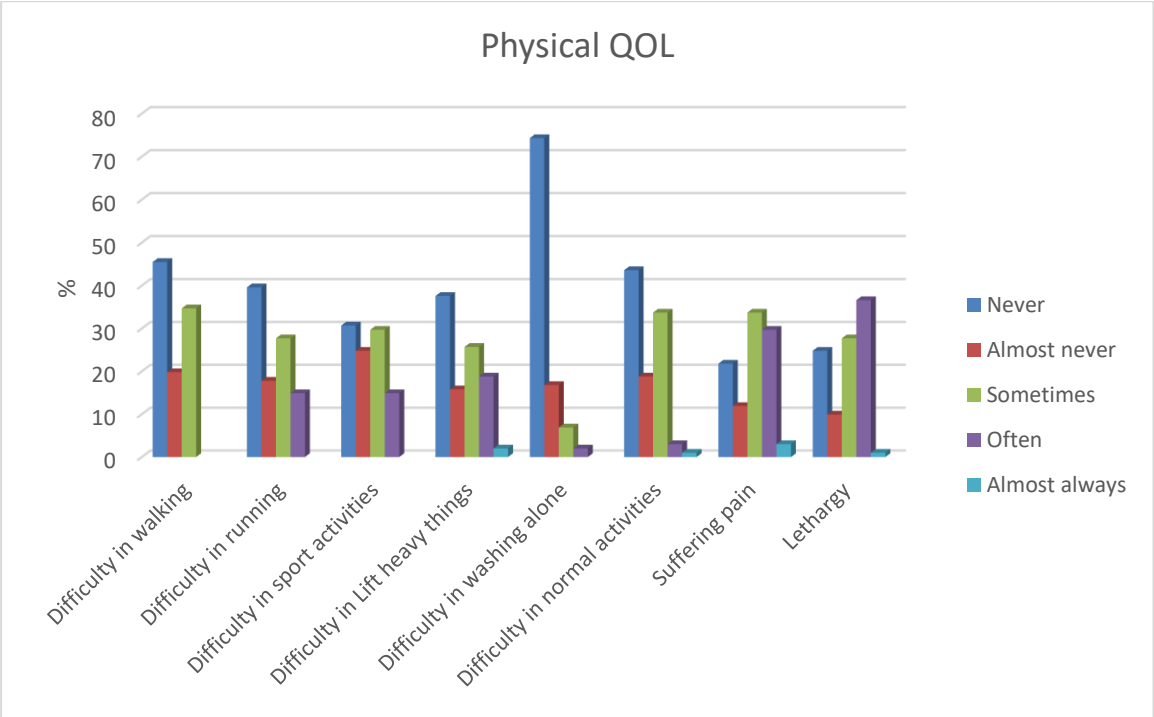

Figure (1): QOL of physical activity among the epistaxis cases

Table (2): QOL of emotional activity among the epistaxis cases

Variable		**(*n*=101)**	
		No	**%**
Fear	Never	37	36.6
	Almost never	23	22.8
	Sometimes	35	34.7
	Often	6	5.9
Sad	Never	40	39.6
	Almost never	19	18.8
	Sometimes	36	35.6
	Often	6	5.9
Angry	Never	29	28.7
	Almost never	20	19.8
	Sometimes	33	32.7
	Often	18	17.8
	Almost always	1	1
Night mares	Never	48	47.5
	Almost never	15	14.9
	Sometimes	28	27.7
	Often	8	7.9
	Almost always	2	2
Worry	Never	31	30.7
	Almost never	13	12.9
	Sometimes	42	41.6
	Often	15	14.9

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

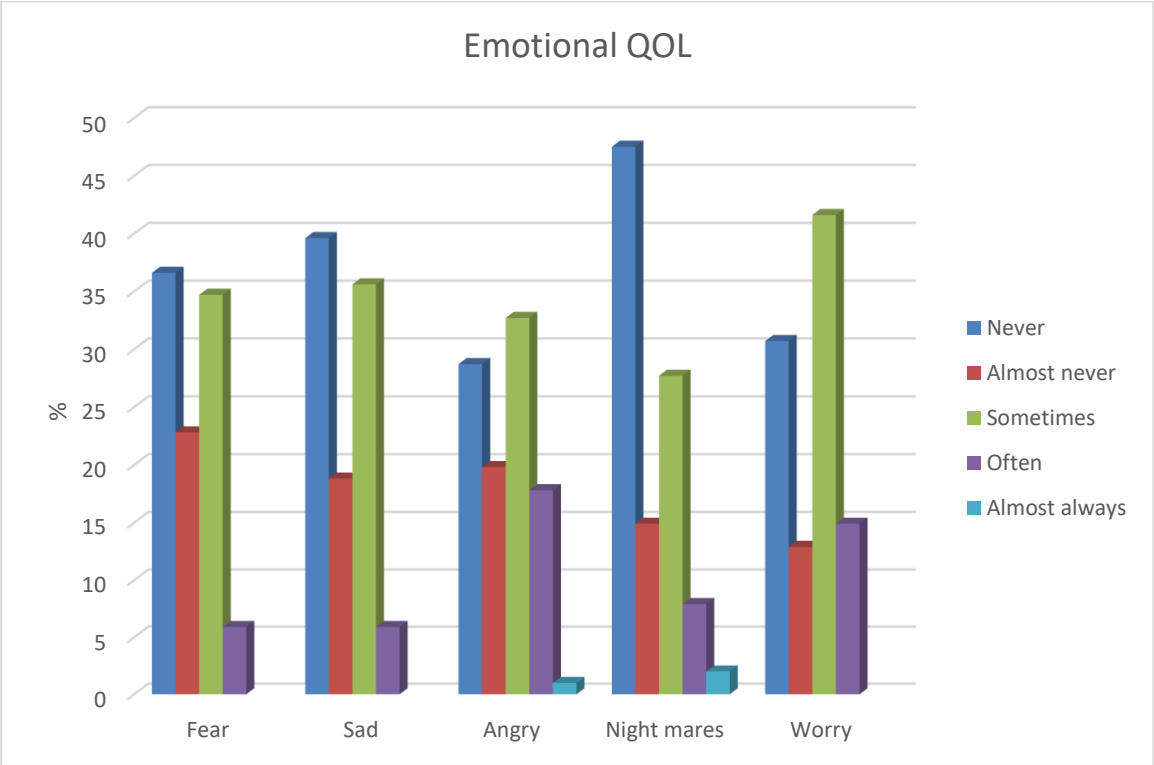

Figure (2): QOL of emotional activity among the epistaxis cases.

Table (3): QOL of social activity among the epistaxis cases

Variable		**(*n*=101)**	
		No	**%**
Problems in deal with children	Never Almost never Sometimes	74 22 5	73.3 21.8 5
Refuse your friendship relation	Never Almost never Sometimes	94 6 1	93.1 5.9 1
Annoying you	Never Almost never Sometimes Often	77 16 6 2	76.2 15.8 5.9 2
Can't do normal things	Never Almost never Sometimes Often	34 16 49 2	33.7 15.8 48.5 2
Can't play (interfer with play)	Never Almost never Sometimes Often	28 13 56 4	27.7 12.9 55.4 4

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

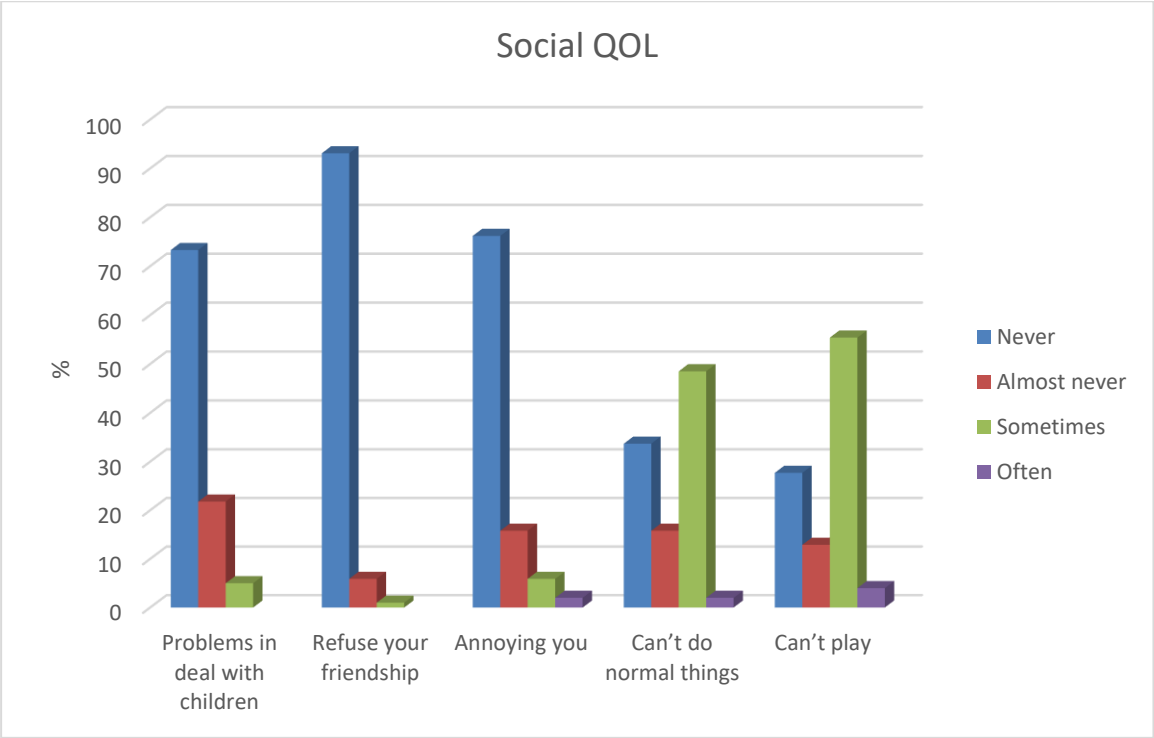

Figure (3): QOL of social activity among the epistaxis cases.

Table (4): QOL of school activity among the epistaxis cases:

Variable		(*n*=101)	
		No	%
Problems in attention in class	Never	38	37.6
	Almost never	21	20.8
	Sometimes	28	27.7
	Often	14	13.9
Forgetness	Never	37	36.6
	Almost never	12	11.9
	Sometimes	37	36.6
	Often	15	14.9
Can't do school activities	Never	34	33.7
	Almost never	19	18.8
	Sometimes	36	35.6
	Often	12	11.9
Absence from school	Never	19	18.8
	Almost never	13	12.9
	Sometimes	28	27.7
	Often	30	29.7
	Almost always	11	10.9
Absence go to doctor or hospital	Never	18	17.8
	Almost never	7	6.9
	Sometimes	31	30.7
	Often	30	29.7
	Almost always	15	14.9

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

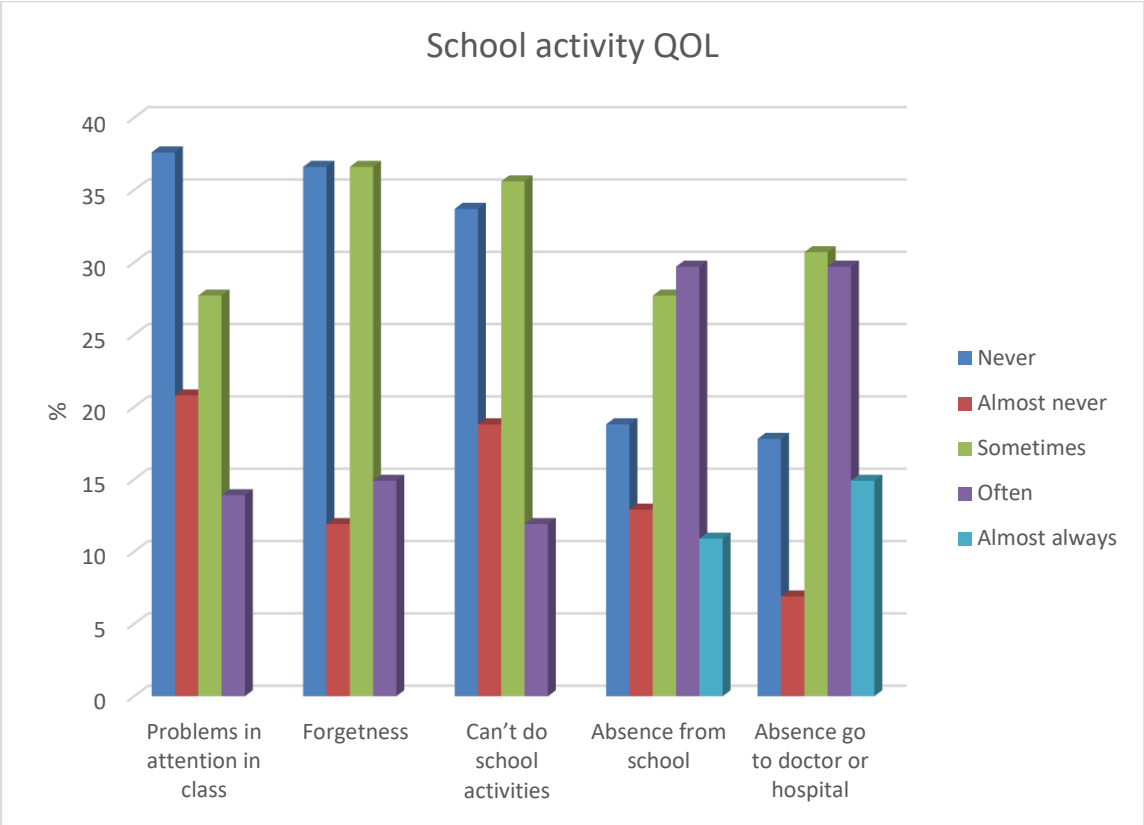

Figure (4): QOL of school activity among the epistaxis cases.

Table (5): Total QOL scores among the epistaxis cases

Variable	**(*n*=101)**
Physical activity: *Mean ± SD* *Range*	 30.38 ± 7.09 17 – 40
Emotional: *Mean ± SD* *Range*	 18.97 ± 4.53 11 – 25
Social activity: *Mean ± SD* *Range*	 21.72 ± 2.41 16 – 25
School activity: *Mean ± SD* *Range*	 17.09 ± 5.37 8 - 25
Total QOL: *Mean ± SD* *Range*	 88.16 ± 18.06 56 - 115

SD: standard deviation

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

Table (6): Relation between QOL scores and severity of epistaxis

Item	Severity	N	Mean	Sd	Range		F	P
Physical	Mild	31	37.52	3.26	28.00	40.00	**59.25**	**<0.001 ****
	Moderate	50	28.86	5.73	18.00	40.00		
	Sever	20	23.10	4.29	17.00	35.00		
Emotional	Mild	31	22.61	2.91	16.00	25.00	**25.06**	**<0.001 ****
	Moderate	50	18.12	4.28	11.00	25.00		
	Sever	20	15.45	3.32	11.00	25.00		
Social	Mild	31	24.06	1.53	20.00	25.00	**39.66**	**<0.001 ****
	Moderate	50	20.98	2.09	16.00	25.00		
	Sever	20	19.95	1.39	17.00	22.00		
School	Mild	31	22.58	2.92	16.00	25.00	**56.24**	**<0.001 ****
	Moderate	50	15.70	4.43	8.00	25.00		
	Sever	20	12.05	2.56	8.00	18.00		
TOTAL QOL	Mild	31	106.77	9.51	84.00	115.00	**59.99**	**<0.001 ****
	Moderate	50	83.66	14.40	58.00	115.00		
	Sever	20	70.55	9.71	56.00	94.00		

SD: standard deviation F: ANOVA test **: highly significant (p<0.01)

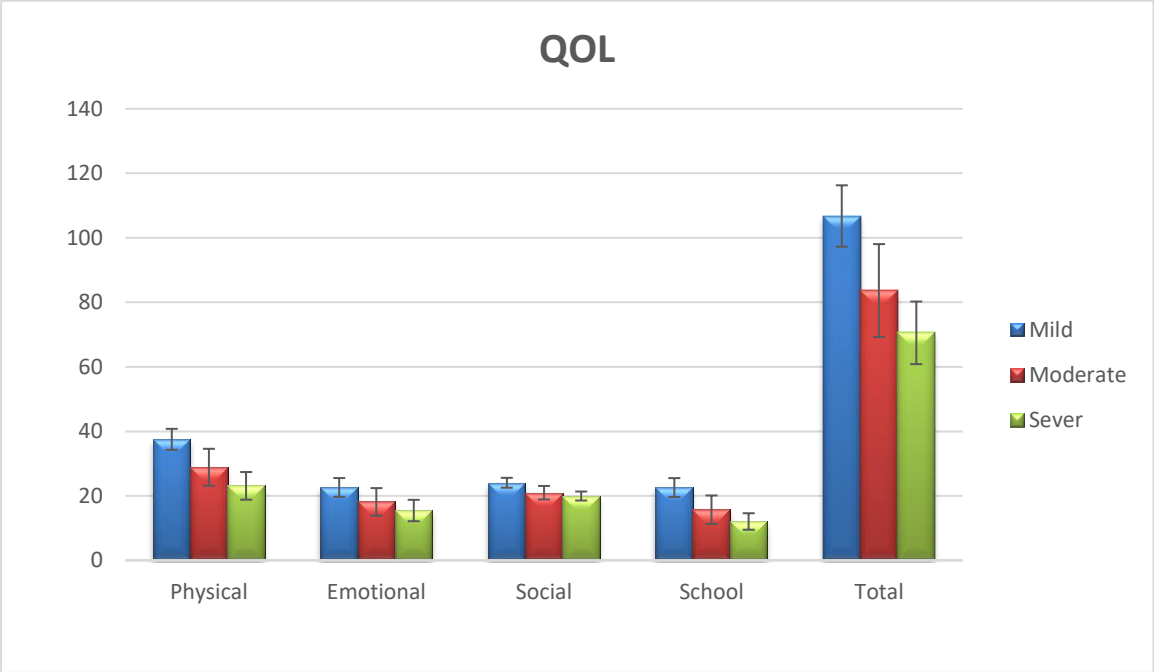

Figure (5): Relation between QOL scores and severity of epistaxis.

Table (7): Correlation between QOL scores and duration and rate of epistaxis

		Duration	Rate
Physical	r	**-0.47**	0.06
	P	**<0.001****	0.58 NS
Emotional	r	**-0.29**	-0.03
	P	**0.004****	0.74 NS
Social	r	**-0.40**	0.03
	P	**<0.001****	0.77 NS
School	r	**-0.43**	0.01
	P	**<0.001****	0.89 NS
TOTAL QOL	r	**-0.44**	0.02
	P	**<0.001****	0.83 NS

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 04, 2021

r: Pearson's correlation coefficient **: highly significant ($p<0.01$)
NS: Non significant ($P>0.05$)

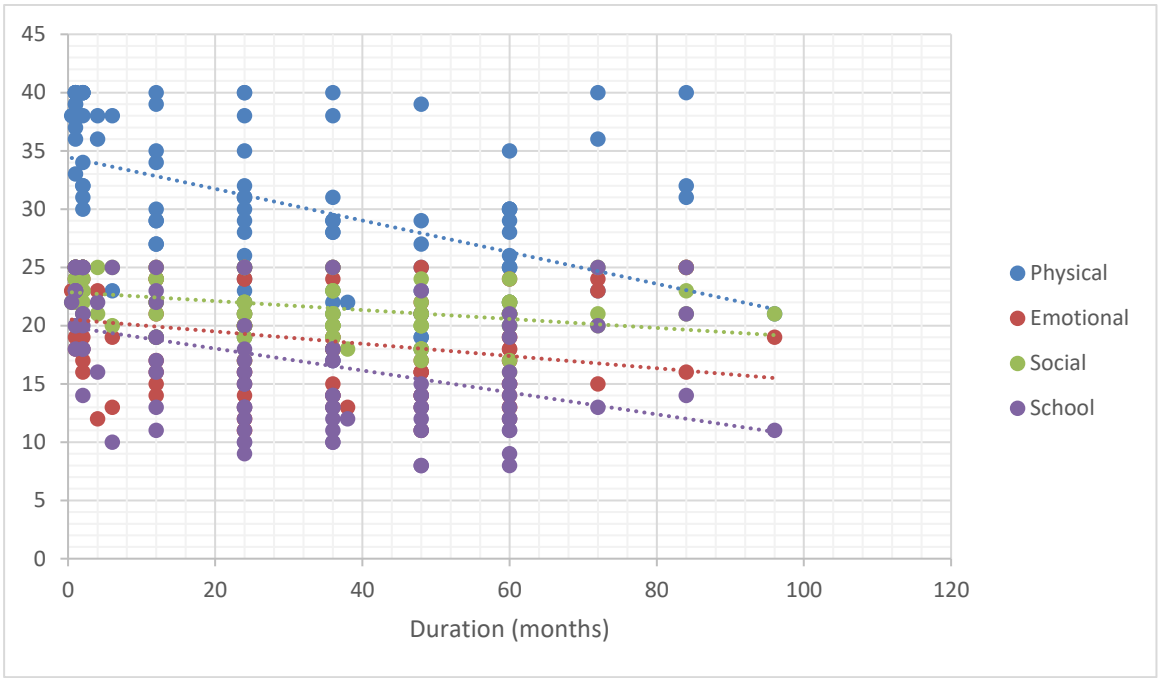

Figure (6): Correlation between QOL scores and duration of epistaxis

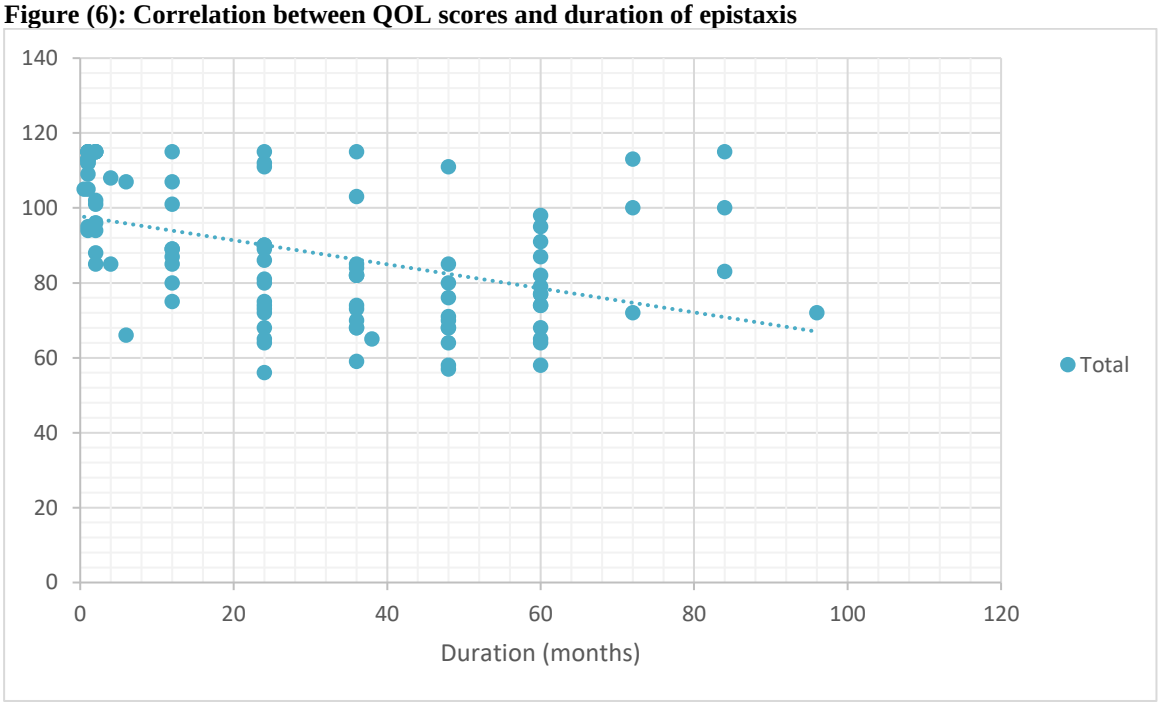

Figure (7): Correlation between total QOL scores and duration of epistaxis