World Family Medicine Journal
incorporating the Middle East Journal of Family Medicine

ISSN 1839-0188

September 2014 - Volume 12, Issue 7

Certain Determinants Affecting the Current Choice of Family Planning Methods used by Women Attending Some Family Planning Clinics in Baghdad City ..... page 24

From the Editor

Chief Editor:
A. Abyad
MD, MPH, AGSF, AFCHSE
Email: aabyad@cyberia.net.lb
Ethics Editor and Publisher
Lesley Pocock
medi+WORLD International
AUSTRALIA
Email:
lesleypocock@mediworld.com.au

Editorial enquiries:
aabyad@cyberia.net.lb

In this issue we have a number of papers with important issues affecting family health, and the community. A paper from Turkey looked at Enuresis Nocturna (EN) associated with symptoms of upper airway obstruction was frequently observed in various studies. This study was conducted on 2314 students between 6-14 years age, from 3 primary schools. The questionnaires, questioning EN and the symptoms of upper airway obstruction, were distributed to students to be filled by parents. The mean age of 2314 study participants (1123 male, 1191 female) was 9.21 ± 2.08 (6-14 years). When students were evaluated as groups with EN and without EN, statistically significant difference was detected between groups regarding upper airway obstruction symptoms (breathing problem while sleeping, sleep apnea syndrome, sleeping with open mouth and snoring) (respectively $p=0.002$, $p=0.036$, $p<0.001$, $p<0.001$). The authors concluded that, EN could accompany with upper airway obstruction symptoms as it was detected in this study. Thus, taking a detailed medical history and physical examination at the primary care centers is significant.

A descriptive cross sectional study from Sri Lanka looked at referral communications. A self administered questionnaire based on the data gathered in earlier qualitative, explorative research was prepared to gather data. A postal survey was conducted among Specialists Island wide. A total of 1100 specialists were included in the study and the response rate was 20%. Although specialists expect a referral letter from general practitioners they receive one only around 50% of the occasions. They were not happy with the quality of letters and expected a comprehensive referral letter. The authors concluded that specialists have positive attitude towards their professional relationship with GPs and they should be made aware of this and try to enhance their communication with specialists. There should be rectifiable measures in the systems which facilitate coordination and communication between the two parties and then the referral process will become meaningful and beneficial to all the stakeholders.

A paper from Bagdad looked at determinants affecting the current choice of family planning methods used by women. The study was conducted on a convenient sample including (400) women who attended 3 family planning clinics. An interview was conducted by the investigator on determinants of the current choice of family planning method , the reasons for this choice and persons who participated in choosing the method . This study showed that the oral contraceptive pills were the most preferable (65.3 %) followed by intrauterine device (19.8 %), hormone injection (10.8 %) then condom (4.3 %). The study found that the doctor was the main person who participates in determining the current family planning method choice. The authors recommend to increase knowledge of both partners to choose appropriate and suitable method for them through increasing the role of mass media and preparing family doctors to offer family planning services and to involve husbands in family planning counseling sessions after communication with their wives to decide the suitable method for them

A paper from Gaza looked at the profile of scabies in children in sector Gaza. All patients who were seen in the outpatient clinic in Jordanian hospital in Gaza were examined for scabies. Patients were divided into three age groups: group I: 0-4 years, group II: 4-8 years and group III: 8-14 years. A total of 5430 children were seen in outpatient clinic for various diseases and conditions during study period. 145 cases of scabies were reported with 98 males and 47 females. The authors concluded that scabies is a common disease among children in Gaza. Major contributing factors to this disease are: crowding, poor hygiene, scarce water supplies and low socio-economic class.

An editorial from Iraq addressed the problem of children who are caught in the upheaval of the Middle East. The authors started by quoting that 'Making peace is harder than making war'. He added that he is writing this editorial because ' I am brimming over and writing is the only way to let it out. It comes fast and furious .I write for the helpless innocent children who did not have the right to chose the accident of their place birth and when I was not really thinking about it ,the sensations aligned themselves the hands and feet worked together and I found that the clutch engaged, and I had slipped into writing gear without really paying attention .like the athletes on the most difficult challenges, using the proprioception of the whole body to excel, pushing through the pain to where the body feeling becomes pleasure, I ought to take the writing past the point of pain to satisfaction.

A paper from Jordan looked at the efficacy of Sodium Stibogluconate intramuscular injections in the treatment of cutaneous leishmaniasis, safety and side effects. A total 43 patient were seen over a period of 12 months. All cases were seen at Prince Rashed Military Hospital in the north of Jordan. The diagnosis of localized cutaneous leishmania was made on clinical grounds proved by leishmania smear or skin biopsy. The finding revealed a total of 23 patients were males and 20 were females (16 of them were 14 years and below). The age group ranged from 2-72 years. One patient (2.3%) had resistant infection to sodium stibogluconate; and an admission was for one patient (2, 3%) for a few days because of a picture of Hepatotoxicity. 42 patients showed improvement of the lesion (98%); improvement is defined when the lesion flattens and ulceration disappears. The authors concluded that many cases of cutaneous leishmaniasis are seen in Jordan causing cosmetic problem. Early introduction of systemic anti-leishmania agent is recommended. Sodium stibogluconate is an effective way to decrease scarring and dispigmentation, with minimum side effect.

Our CME section provides a review of various forms of research misconduct and provides a good checklist for authors and potential authors.

Enuresis Nocturna and the Symptoms of Upper Airway Obstruction in Primary School age Children: Is there a Relationship?

Doganer Yusuf Cetin (1)
Aydogan Umit (2)
Ashfaq Tabinda (3)
Burmaoglu Serhat (4)
Sari Oktay (5)
Koc Bayram (6)
Saglam Kenan (7)
Qidwai Waris (8)

(1) MD, Department of Family Medicine, Mayo Clinic and Foundation, Rochester, MN, USA.
(2) Assoc. Prof. Dr, Department of Family Medicine, Gulhane Military Medical Faculty, Ankara, Turkey.
(3) Assist. Prof. Dr, Department of Family Medicine, Aga Khan University Hospital, Karachi, Pakistan.
(4) Assoc.Prof., Faculty of Economics and Administrative sciences, Katip Celebi University, Izmir, Turkey
(5) Assist .Prof. Dr, Department of Family Medicine, Gulhane Military Medical Faculty, Ankara, Turkey.
(6) Prof. Dr, Department of Family Medicine, Gulhane Military Medical Faculty, Ankara, Turkey.
(7) Prof. Dr, Department of Internal Medicine, Gulhane Military Medical Faculty, Ankara, Turkey.
(8) Prof. Dr, Department of Family Medicine, Aga Khan University Hospital, Karachi, Pakistan.

Correspondence:
DOGANER Yusuf Cetin, MD
Research Fellow, Mayo Clinic, Department of Family Medicine, Rochester, MN, USA
Turkish Military Academy Primary Care Examination Center, Ankara, Turkey
GSM: +1 507 3190340
Email: doganer.yusuf@mayo.edu, ycetindoganer@hotmail.com

Abstract

Objective: Enuresis Nocturna (EN) associated with symptoms of upper airway obstruction was frequently observed in various studies. In this study, EN associated with symptoms of upper airway obstruction (breathing problem while sleeping, sleep apnea syndrome, sleeping with open mouth, snoring) was examined.

Methods: This study was conducted on 2314 students between 6-14 years age, from 3 primary schools in Ankara between January-May 2011. The questionnaires, questioning EN and the symptoms of upper airway obstruction, were distributed to students to be filled in by parents.

Results: The mean age of 2314 study participants (1123 male, 1191 female) was 9.21 ± 2.08 (6-14 years). When students were evaluated as groups with EN and without EN, a statistically significant difference was detected between groups regarding upper airway obstruction symptoms (breathing problem while sleeping, sleep apnea syndrome, sleeping with open mouth and snoring) (respectively $p=0.002$, $p=0.036$, $p<0.001$, $p<0.001$). When students were examined by dividing into 3 age groups as Group I(6-8 age), Group II(9-11 age) and Group III(12-14 age), a statistically significant difference was detected between age groups with EN (+), regarding breathing problem while sleeping and sleep apnea syndrome (respectively $p=0.025$, $p=0.004$).

Conclusion: As was detected in this study, EN could accompany upper airway obstruction symptoms as was detected in this study. Thus, taking a detailed medical history and physical examination at the primary care centers is significant.

Key words Nocturnal enuresis; airway obstruction; child

Introduction

The adenoids and tonsils in the upper airway are very small at birth and then they grow during the first 4 years of the life. They tend to shrink toward the adolescence period (1). During this period, children with adenoid and tonsillar hypertrophy could show some pathological symptoms and signs. It is stated that recurrent acute and chronic inflammation cause adenoid hypertrophy in some children (2). Adenoid and tonsillar hypertrophy can cause serious diseases from snoring to Obstructive Sleep Apnea Syndrome (OUAS), based on pharyngeal obstruction and respiratory disorders while sleeping. Snoring, mouth breathing, apnea and enuresis nocturna (EN) are detected as the most frequently seen symptoms during night (1).

It is found that EN during adolescence and childhood period is related with obstructive respiratory disorders occurring during night (3). EN can be described as involuntary urination or urinary incontinence of children above 5 during the night (4). Enuresis is a clinical problem, which diminishes the quality of life for children and their families. Thus, children have emotional and learning-based problems, which affect their social life (5). It is detected that many children with enuresis have a genetic susceptibility (6). In the studies, it is stated that two possible physical disorders could cause this situation. One of them is functional bladder disorder while the other one is the maturational delay in nocturnal arginine vasopressin secretion (7).

The purpose of the study is to see the relationship of EN with the symptoms of upper airway obstruction in children at primary school-age.

Methods

Study design and subjects: This study was a cross-sectional study and performed at 3, randomly selected, primary schools in Ankara during January-May 2011. The counselor and school administrators were informed about the details of study. A total of 2500 students were approached for this study through convenient sampling and around 2314 students agreed to participate with a response rate of 92%.

Survey questionnaire: a pretested self-administered questionnaire was used for data collection. A Questionnaire was comprised of questions related to socio-demographic characteristics of participants, such as age, sex, income level, the education level of parents, symptoms of upper airway obstruction i.e.; breathing problem while sleeping, sleep apnea syndrome, sleeping with open mouth, snoring etc, and about their EN status. The participants were also asked about frequency of being diagnosed with recurrent upper respiratory tract infection (URTI) and acute otitis media (AOM). EN was described as urinary incontinence of more than once a month in children above 5 years old, without any related symptoms. EN can be divided into primary EN (80%) and secondary EN (20%). In primary EN, it is possible to have lifelong urinary incontinence, while in secondary EN; urinary incontinence begins after at least six months of staying dry. In this study we included patients presenting with primary enuresis while patients with secondary enuresis were excluded and student group with enuresis nocturna was described as EN (+) and without enuresis nocturna was described as EN (-). Sleep apnea syndrome was evaluated as the most serious upper respiratory tract obstruction symptom. The sleep apnea syndrome was described as respiratory arrest lasting more than 5-10 seconds during sleep due to any reason. If apnea attacks happened more than 4 times a week, it was described as “during every sleep”; if it was 3-4 times a week, it was described as “frequently”; if it was twice a week, it was described as “sometimes” and if it was once a week, it was described as “rarely”.

Ethical Approval: The parents of students were informed about the study purpose and their written consent was taken. Ethics approval was taken from the ethical committee of Gulhane Military Medical Academy (GMMA) (No:1491-941-09/1539) and also necessary permission was obtained from Ankara Provincial Directorate of National Education.

Statistical analysis: SPSS 15.0 for Windows (Chicago-USA) package program was used for evaluating the data obtained from the study. Descriptive statistical methods were used to state categorical variables in numbers and percentages, and continuous variables in mean ± standard deviation. Chi-square test was used to compare discrete variables. While examining the upper airway obstruction symptoms related with EN in children in the sample group, logistic regression analyses was performed by encoding EN (+) as 1 and EN(-) as 0. Calculation of odds ratios (OR) for EN (+) group and 95% confidence intervals (CI) were made using univariate logistic regression model. The level of $p< 0.05$ was considered significant.

Results

A total of 2500 primary school-age children parents were approached out of which 2314 completely filled the questionnaire with a response rate of 92.56%. The average age of study group was 9.21±2.08 with a male predominance; i.e. 5%.

For analysis purpose students were divided into three groups; as Group I of 6-8 years old students (n=958), Group II of 9-11 years old students (n=1014) and Group III of 12-14 years old students (n=342). The overall prevalence of EN for all students was found to be 9.9% (n=230) in general. When assessing prevalence in terms of age groups, the rate of EN was 14.1% (n=135) for the students of Group I, 8.1% (n=82) for the students of Group II and 3.8% (n=13) for Group III ($p<0.001$).

The frequency of upper respiratory tract obstruction symptoms (breathing problem while sleeping, sleep apnea syndrome, sleeping with open mouth, snoring) in EN (+) and EN (-) groups are shown in Table 1. Sleep apnea was recognized as the most serious upper airway

obstruction symptom. In EN (+) group, 31 students had sleep apnea syndrome, the distribution of them regarding the age groups was as follows: 12 students were in Group I and 19 students were in Group II. The frequency of apnea attacks was evaluated in EN (+) group; it was detected that 24 students had it “very rare”, 2 students had it “sometimes” and 5 students had it “during every night”.

Table 1: Comparison of upper respiratory tract obstruction symptoms of students in EN (+) and EN (-) groups

	EN (+)	EN (-)	Univariate regression models	
	% (n)	% (n)	p	OR (95% CI)
Breathing problem while sleeping (+)	22,2% (51)	14.3% (299)	**0.002**	1.70 (1.21-2.37)
Sleep apnea syndrome (+)	13.5% (31)	9,2% (191)	**0.036**	1.54 (1.02-2.31)
Sleeping with open mouth (+)	42.2% (97)	27.6% (576)	**< 0.001**	1.90 (1.44-2.52)
Snoring (+)	23.5% (54)	13.9% (289)	**<0.001**	1.90 (1.37-2.64)

When the students with EN were evaluated regarding age groups (Group I, II, III), a statistically significant difference was determined between groups, regarding breathing problem while sleeping and apnea attack (respectively, p=0.025, p=0.004). When the groups were evaluated regarding sleeping with open mouth and snoring, there was not a statistically significant difference (p>0.05) (Table 2).

Table 2: The comparison of upper airway obstruction symptoms regarding age groups

	Group I	Group II	Group III	
	% (n)	% (n)	% (n)	p
Breathing problem while sleep (+)	17.8 (24)	31.7 (26)	7.7 (1)	**0.025**
Sleep apnea syndrome (+)	8.9 (12)	23.2 (19)	0 (0)	**0.004**
Sleeping with open mouth (+)	38.5 (52)	46.3 (38)	53.8 (7)	0.359
Snoring (+)	24.4 (33)	22 (18)	23.1 (3)	0.915

We performed a logistic regression analysis to determine the most effective discriminating variable(s). Hence, we could see the most effective variable(s) at the last step of the model. The model coefficients were tested by omnibus test and they were statistically significant (p<0.05). In addition, according to Hosmer and Lemeshow Goodness-of-Fit test the model is statistically significant (Chi-Square=0.148; df =2; p>0.05). When the relational statistics Cox & Snell R Square and Nagelkerke R Square values are seen, it could be interpreted that these statistics were moderately low. It is known that there are many other variables affecting EN in real life; however we applied the model just for four of them, so we evaluated these relational values as acceptable. Finally the model with variables and the statistics from them can be seen in Table 3.

As seen in Table 3, “Sleeping with open mouth” variable is statistically significant for all steps. When we examine the third step, “Sleeping with open mouth” (Wald=9.711; p<0.05) and “Snoring” (Wald=2.940; p<0.10) can be accepted as the most efficient variables for EN (+) and EN (-) discrimination.

When EN (+) and EN (-) groups were evaluated regarding the frequency of upper respairatory tract infection, 12.2% of the students in EN (+) group had URTI 5-6 times a year and this rate was 6.7% in EN (-) group (p=0.003) (Table 4).

When EN (+) and EN (-) groups were evaluated regarding recurrent acute otitis media (AOM), 33.5% of the students in EN (+) group had AOM problem 1-2 times a year and this rate was 25.9% in EN (-) group (p=0.041) (Table 5).

Table 3: Logistics regression model coefficients

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1(a)	Breathing problem while sleep (1)	-,186	,271	,471	1	,493	,830
	Sleep apnea syndrome (1)	-,028	,306	,008	1	,927	,972
	Sleeping with open mouth (1)	-,470	,170	7,668	1	,006	,625
	Snoring (1)	-,286	,204	1,964	1	,161	,752
	Constant	-1,486	,223	44,575	1	,000	,226
Step 2(a)	Breathing problem while sleep (1)	-,203	,192	1,126	1	,289	,816
	Sleeping with open mouth (1)	-,471	,170	7,703	1	,006	,624
	Snoring (1)	-,282	,201	1,977	1	,160	,754
	Constant	-1,498	,175	73,733	1	,000	,223
Step 3(a)	Sleeping with open mouth (1)	-,513	,165	9,711	1	,002	,599
	Snoring (1)	-,334	,195	2,940	1	,086	,716
	Constant	-1,596	,150	112,954	1	,000	,203

Table 4: Comparison of URTI frequencies in EN (+) and EN (-) student groups

URTI frequency	EN (+) % (n)	EN (-) % (n)	p
None	6.5 (15)	12.5 (260)	**0.003**
1-2 times per year	50 (115)	51.3 (1069)	
3-4 times per year	28.7 (66)	26.2 (545)	
5-6 times per year	12.2 (28)	6.7 (139)	
> 6 times per year	%2.6 (6)	%3.4 (71)	

Table 5. Comparison of AOM frequencies in EN (+) and EN (-) student groups

AOM frequency	EN (+) % (n)	EN (-) % (n)	p
None	60.9 (140)	69.2 (1443)	**0.041**
1-2 times per year	33.5 (77)	%25.9 (540)	
3-4 times per year	3.9 (9)	%4.0 (84)	
5-6 times per year	1.7 (4)	%0.7 (14)	
> 6 times per year	0 (0)	%0.1 (3)	

For the rate of students, who had surgical operation due to upper airway obstruction symptoms (tonsillectomy, adenoidectomy, adenotonsillectomy) was 7.6% (n=175), the mean age of students was 5.71±1.83 (2-11 years old), when they had the operation. 57.1% (n=100) of the students, who had the operation, were male and 42.9% (n=75) were female. The distribution of operations was as follows: 10.9% (n=19) was tonsillectomy, 33.1% (n=58) adenoidectomy, 56% (n=98) adenotonsillectomy. Even if the difference was not statistically significant, 8.6% of the students, who had a surgical operation related to upper airway obstruction, had EN while this rate was 10.1% for students, who did not have a surgical operation.

Discussion

During childhood, there are many factors, particularly adenoid and tonsillar hypertrophy, which restrict air flow through the upper airway. Adenoid and tonsillar hypertrophy is taken normally during this period, when children have nasal and throat infections frequently (1, 8). Enlarged adenoids can block air flow through the nasal cavity. This situation can result in snoring, mouth breathing, and nasal speech (7). EN is another clinic case, thought to develop during this period as a result of upper airway obstructions. In this study, it was detected that symptoms of upper airway obstruction such as breathing problem while sleeping, apnea attacks, sleeping with open mouth and snoring were seen more frequently in children with EN. When the children with Enuresis were evaluated regarding the age groups, it was detected that there was a difference between groups regarding breathing problem while sleeping and apnea attacks and it was determined that this difference depended on the increasing number of these two symptoms in Group II (9-11 years old) students.

There have been many studies demonstrating the correlation between upper respiratory tract obstruction and EN. In the study of Cinar et al., it was found that the etiologic relation between EN and upper airway obstruction was stronger than estimated (9). Alexopoulos et al. examined the relation between primary EN during childhood and snoring. This study included 1821 students (5-14 years old) and it was determined that 135 students (7.4%) had habitual snoring (HS). As a result of this study, it was determined that children with HS were diagnosed with primary EN more frequently than children without HS (3). In the study of Ersu et al, it was stated that HS was a serious problem for children and could be related with diurnal symptoms. The study included 2147 primary school students (5-13 years old) and it was detected that of students with HS (7%) had apnea, restless leg syndrome, parasomnia and nocturnal enuresis more frequently than children without HS (10). Ayd?n et al. examined EN and upper airway obstruction symptoms, developed by adenoid hypertrophy and 1090 primary school students (5-14 years old) were included in the study. When the students were evaluated separately under 3 groups as 5-7 years old, 8-10 years old, 11-14 years old students, contrary to the former studies, there was no significant difference between groups regarding the relation of EN frequency with adenoid hypertrophy symptoms (7). In this study, when sleeping with open mouth and snoring were evaluated as the most simple symptoms of upper respiratory tract obstruction, it was determined that students with EN (+) had these problems more frequently than students with EN (-). This statistically significant difference between groups supported the findings of former studies. It was considered that the difference could result from disorders in neuro-hormonal mechanisms, which controlled urinary incontinence.

It was a frequently observed clinical finding that sleep apnea syndrome was accompanied with EN. In the study of Basha et al., 326 children (2-18 years old), who had tonsillectomy or adenotonsillectomy, were included and EN prevalence rate was detected as 32.8% (n=107). After a period of 44 months, it was detected during retrospective evaluation that in 61.4% of the cases patients recovered from EN completely, 22.8% EN was in remission period and in 15.8% cases EN still existed (11). In the study of Brooks and Topol, 160 children, having breathing problem while sleeping, were polisomnographically evaluated and also Respiratory Disturbance Index (RDI) was performed. It was detected that 66 (41%) of the children were enuretic. As a result of the study, it was determined that children with RDI>1 had higher risk of enuresis than children with RDI< or =1. This result also revealed that respiratory difficulties while sleeping increased the risk of enuresis (12). Weissbach et al. evaluated 161 children (4-18 years old) polisomnographically and examined EN in the post-adenotonsillectomy period. In an evaluation performed after nine months from the operation, it was detected that EN symptoms dramatically decreased after adenotonsillectomy operation in children with obstructive sleep apnea (13). Firoozi et al. obtained similar results (14). Weider et al determined that patients recovered from enuresis after having adenotonsillectomy, which treated chronic adenotonsillar hypertrophy and airway obstruction (15). In this study, it was determined that the rate of students, having breathing problem while sleeping or apnea attacks, was higher in EN (+) than in EN (-) group. The results of this study supported former studies. This statistically significant difference between EN (+) and EN (-) groups could be related to a weak control of the regulation of Antidiuretic Hormone (ADH) release, especially related with REM (Rapid Eye Movement) sleep, and an increased release of atrial natriuretic peptide (ANP).

In this study, the frequency of recurrent URTI and AOM was also examined in addition to upper airway obstruction symptoms. A statistically significant difference was detected between EN (+) and EN (-) student groups, regarding the frequency of recurrent URTI and AOM. Although there has been no study that directly has examined the relation of URTI and AOM with EN, it is clear that eustachian tube dysfunction, especially which which resulted from adenoid hypertrophy, forms the basis for URTI and AOM (7). Therapeutic effectiveness

of adenotonsillectomy in enuretic children, who applied due to obstructive sleep apnea symptoms, was shown in a limited number of studies (14, 16). As it was determined in this study, the relation of pathologies, which caused upper airway obstruction like adenoid hypertrophy, with EN supported indirectly the relation between EN and AOM. It was considered that increase in frequency of URI and AOM in the EN (+) group resulted from the infection, which occurred due to air passages obstruction.

Study limitations: Upper respiratory tract obstruction symptoms could be observed in children without adenoid hypertrophy. For example, these symptoms could be observed in children with allergic rhinitis, septal deviation or concha hypertrophy. However these pathologies are more rarely observed than adenoid hypertrophy in this age group. Not being able to make a differential diagnosis in children with these symptoms was one of the most important limitations of this study. Moreover, enuretic children could not be examined prospectively because of the cross-sectional study design. Another limitation of this study was that it could not be determined whether the children, who had surgical operation because of upper airway obstruction, recovered from EN or not. Because of study design, adenoids and tonsils size could not be measured by physical examination.

Conclusions

EN is a serious disease that has a potential to cause important problems in social life. The importance of a detailed medical history and physical examination at primary care centers is evident, because the initial contact with patients begins in these centers. As it was detected in this study, even if EN seems to be a urological pathology, it is observed that it accompanies upper airway obstruction symptoms frequently (breathing problem during sleeping, sleep apnea syndrome, open mouth sleeping, snoring).

Acknowledgements

The authors thank all students, parents and teachers for their participation in this study, and the principals of the schools and Regional Director of Education of Ankara who made this study possible by approving and supporting the process.

References

1. Kara C.O., Ergin H., Kocak G., Kilic I., M. Yurdakul M. Prevalence of tonsillar hypertrophy and associated oropharyngeal symptoms in primary school children in Denizli, Turkey, Int. J. Pediatr. Otorhinolaryngol. 66 (2) (2002) 175-179.
2. Potsic W.P. Assessment and treatment of adenotonsillar hypertrophy in children, Am. J. Otolaryngol. 13 (5) (1992) 259-264.
3. Alexopoulos E.I., Kostadima E., Pagonari I., Zintzaras E., Gourgoulianis K., Kaditis A.G. Association between primary nocturnal enuresis and habitual snoring in children, Urology 68 (2) (2006) 406-409.
4. Van Gool JD, Nieuwenhuis E, Ten Doeschate IO, Messer TP, De Jong TP. Subtypes in monosymptomatic nocturnal enuresis. II, Scand. J. Urol. Nephrol. Suppl. 202 (1999) 8-11.
5. Gur E, Turhan P, Can G, Akkus S, Sever L, Guzeloz S, et al. Enuresis: prevalence, risk factors and urinary pathology among school children in Istanbul, Turkey. Pediatr Int 2004;46:58-63.
6. Bailey J.N., Ornitz E.M., Gehricke J.G., Gabikian P., Russell A.T., Smalley S.L. Transmission of primary nocturnal enuresis and attention deficit hyperactivity disorder, Acta Paediatr. 88 (12) (1999) 1364-1368.
7. Aydin S., Sanli A., Celebi O., Tasdemir O, Paksoy M., Eken M., Hardal U., Ayduran E. Prevalence of adenoid hypertrophy and nocturnal enuresis in primary school children in Istanbul, Turkey. International Journal of Pediatric Otorhinolaryngology 2008;72:665-668.
8. Kornblut A.D. Non-neoplastic disease of the tonsils and adenoids, in: Paparella M.M., Shumrick D.A., Gluckman J.L., W.L. Meyerhoff W.L. (Eds.). Otolaryngology, third ed., W.B. Saunders Co., Philadelphia, 1991, pp. 2129-2147.
9. Cinar U., Vural C., Cakir B., Topuz E., Karaman M.I., Turgut S. Nocturnal enuresis and upper airway obstruction, Int. J. Pediatr. Otorhinolaryngol. 59 (2) (2001) 115-118.
10. Ersu R., Arman A.R., Save D., Karadag B., Karakoc F., Berkem M., Dagli E. Prevalence of snoring and symptoms of sleep-disordered breathing in primary school children in
Istanbul, Chest 126 (1) (2004) 19-24.
11. Basha S., Bialowas C., Ende K., Szeremeta W. Effectiveness of adenotonsillectomy in the resolution of nocturnal enuresis secondary to obstructive sleep apnea. Laryngoscope 115(6) (2005) 1101-1103.
12. Brooks L.J., Topol H.I. Enuresis in children with sleep apnea. J. Pediatr. 142 (5) (2003) 515-518.
13. Weissbach A., Leiberman A., Tarasiuk A., Goldbart A., Tal A. Adenotonsilectomy improves enuresis in children with obstructive sleep apnea syndrome, Int. J. Pediatr. Otorhinolaryngol. 70 (8) (2006) 1351-1356.
14. Firoozi F., Batniji R., Aslan A.R., Longhurst P.A., Kogan B.A. Resolution of diurnal incontinence and nocturnal enuresis after adenotonsillectomy in children. J. Urol. 175 (5) (2006) 1885-1888.
15. Weider D.J., Sateia M.J., West R.P. Nocturnal enuresis in children with upper airway obstruction, Otolaryngol. Head Neck Surg. 105 (3) (1991) 427-432.

Referral communications: Bridging the gap between primary care doctors and specialists

R.P.J.C. Ramanayake (1)
A.H.W. de Silva (2)
D.P. Perera (2)
R.D.N. Sumanasekera (2)
K.M.S. Lakmini (3)
B.L.S. Ranasigh (3)

(1) Senior Lecturer: Department of Family Medicine, Faculty of Medicine, University of Kelaniya, Sri Lanka.
(2) Lecturer: Department of Family Medicine, Faculty of Medicine, University of Kelaniya, Sri Lanka.
(3) Demonstrator: Department of Family Medicine, Faculty of Medicine, University of Kelaniya, Sri Lanka.

Correspondence:
Dr. R.P.J.C. Ramanayaka
Department of Family Medicine, Faculty of Medicine, University of Kelaniya, Sri Lanka
Tel: 0094 773308700
Email: rpjcr@yahoo.com

Abstract

Introduction: In the Sri Lankan health system there is no system for registering a patient under any health care provider and there is no established referral and back referral system in practice. Still there is communication between primary care doctors and specialists mostly through conventional letters. This study was conducted to explore views of specialists on the referral process of the country.

Methodology: This was a descriptive cross sectional study. A self administered questionnaire based on the data gathered in earlier qualitative, explorative research was prepared to gather data. A postal survey was conducted among Specialists island wide.

Results: 1100 specialists were included in the study and the response rate was 20%. Although specialists expect a referral letter from general practitioners they receive one only around 50% of the occasions. They were not happy with the quality of letters and expected a comprehensive referral letter. They were keen to reply but time constraints (50%), lack of secretarial support (36%) and perception that reply will not reach the sender (31%) were obstacles in replying. Continuous medical education, use of structured referral forms and strengthening training programs were suggested to improve communications.

Conclusions and recommendations: Specialists have a positive attitude towards their professional relationship with GPs and they should be made aware of this and try to enhance their communication with specialists. There should be rectifiable measures in the systems which facilitate coordination and communication between the two parties and then the referral process will become meaningful and beneficial to all the stakeholders.

Key words: Referral letters, communications, specialists, general practice

Introduction

Sri Lanka has its own unique health care provider system. Similar to most countries in the world, the Sri Lankan health system also consists of three levels of care, the primary, secondary and tertiary and the health services which are offered by both the state and the private sector.(1) However all citizens have access to healthcare in any part of the island from either the state or the private sector.

Although Sri Lanka has an extensive network of health care institutions, there is no system for registering a patient under any health care provider(2) and also there is no established referral and back referral system in practice in the private sector.(3) Therefore patients are free to select a doctor of their choice for a given ailment and referrals to specialists are not always through a generalist. This situation has given rise to free movement of patients within and between primary, secondary and tertiary care.(2) The state sector has a referral system for administrative purposes, the patient having to get a "chit" from the outpatient department to get into a specialist clinic.(3)

Thus there is no accepted referral system particularly in the private sector and also there is no continuity of care or accountability for a given patient's health outcomes either in the state or in the private sector.

Referral of a patient for services of a specialist is an inevitable and essential aspect of primary medical care. Even though there is no established system, coordination of patient care with a specialst goes on in practice. We need to work towards a proper referral system to deliver better quality patient care. In this background, research related to the present position in referral consultations will be of great value and we have carried out research from different angles to contribute to the existing data. Looking at a proper referral system, shows that during the process of patient referral, good communication and coordination between primary care doctors/general practitioners (GPs) and specialists is essential to provide continuity of care and proper follow up of a patient. The three parties involved in the process, general practitioners, specialists and the patients have their own expectations from communications; specialists expect information about the problem to be addressed and adequate relevant details, GPs expect a clear response regarding diagnosis and management and patients expect information about the diagnosis, treatment and follow up requirements. When these expectations are unmet GPs, specialists and patients end up dissatisfied with the process.(4) Research also has shown that there is great variation in the referral patterns and rates.(5) Possible reasons for this may be characteristics of the patient (age, gender, social status, level of education, occupation), pressure from and expectations of patients, characteristics of the physician (age, gender, length of practice, patient load, willingness to deal with uncertainty) and access to specialists.(6)

In referring patients in Sri Lanka, communication between GPs and specialists takes place mostly through letters(3,7) although there are other forms of communication such as mobile phones, e-mails etc. Studies on patient referrals are scarce and published research involving specialists on referral communications are not available in the country. As the specialists play a key role in establishing a proper referral system, it was decided to conduct an island wide study among specialists to explore their views.

Methodology

This was a descriptive cross sectional study. To prepare the list of specialists serving in government hospitals all the secondary and tertiary care hospitals were contacted and the names of specialists were obtained. Similarly key private sector hospitals were also contacted and details of specialists visiting those hospitals were obtained. Specialists rarely contacted by a primary care doctors, such as anesthetists, and microbiologists were excluded from the study.

Self administered questionnaire was prepared to explore views of specialists. This questionnaire was formulated based on the data gathered in earlier qualitative, explorative research conducted among specialists by the authors.(7)

The questionnaire was piloted to assess the applicability (comprehension, formulation and length of time) and necessary changes were made. It was mailed to all the specialists in the list with a covering letter with a stamped envelope to return it.

Results

Expectation and receiving of referral letters

Fifty five percent (55%) of the specialists always expected a referral letter from a GP when a patient was referred and the rest (45%) expected a letter when important information had to be conveyed. According to their perception only 3.7% receive a letter always, while another 52.3% receive one most of the time. 43.1% and 4.5% receive a referral letter rarely and never, respectively.

Replying to referrals

22.3% reply to referral letters always, 47.7% respond most of the time while others (30%) reply occasionally or rarely.

Factors which influence specialists to write a reply

The most important factor which influences a reply was whether follow up was necessary (79.5%). Other factors were type of condition (60%), quality of referral (49.1%) and primary care doctor known to the specialist (26.4%).

Table 1: Profile of specialists

Detail		Invited	Responded	%
Total number of Specialists		1100	220	20.0
Number of specialties		35	28	80.0
Top ten specialties	General physician	209	40	19.1
	Paediatrician	153	37	24.1
	General surgeon	140	27	19.3
	Obs & gynaecologists	140	15	10.7
	Dermatologists	65	12	18.4
	Psychiatrists	58	14	24.1
	Ophthalmologists	46	12	26.1
	ENT surgeons	42	7	16.7
	Cardiologists	37	9	24.3
	Orthopedic surgeons	23	3	13.0
Demographic details of respondents				
Age range (years)				34-70
Gender	Male			70.5%
	Female			29.5%
Duration of practice (years)				1-40
Provinces represented				9
Work place	Both Government & private sector			89.1%
	Only government sector			5.9%
	Only private sector			5.1%

Graph 1: Quality of referral letters

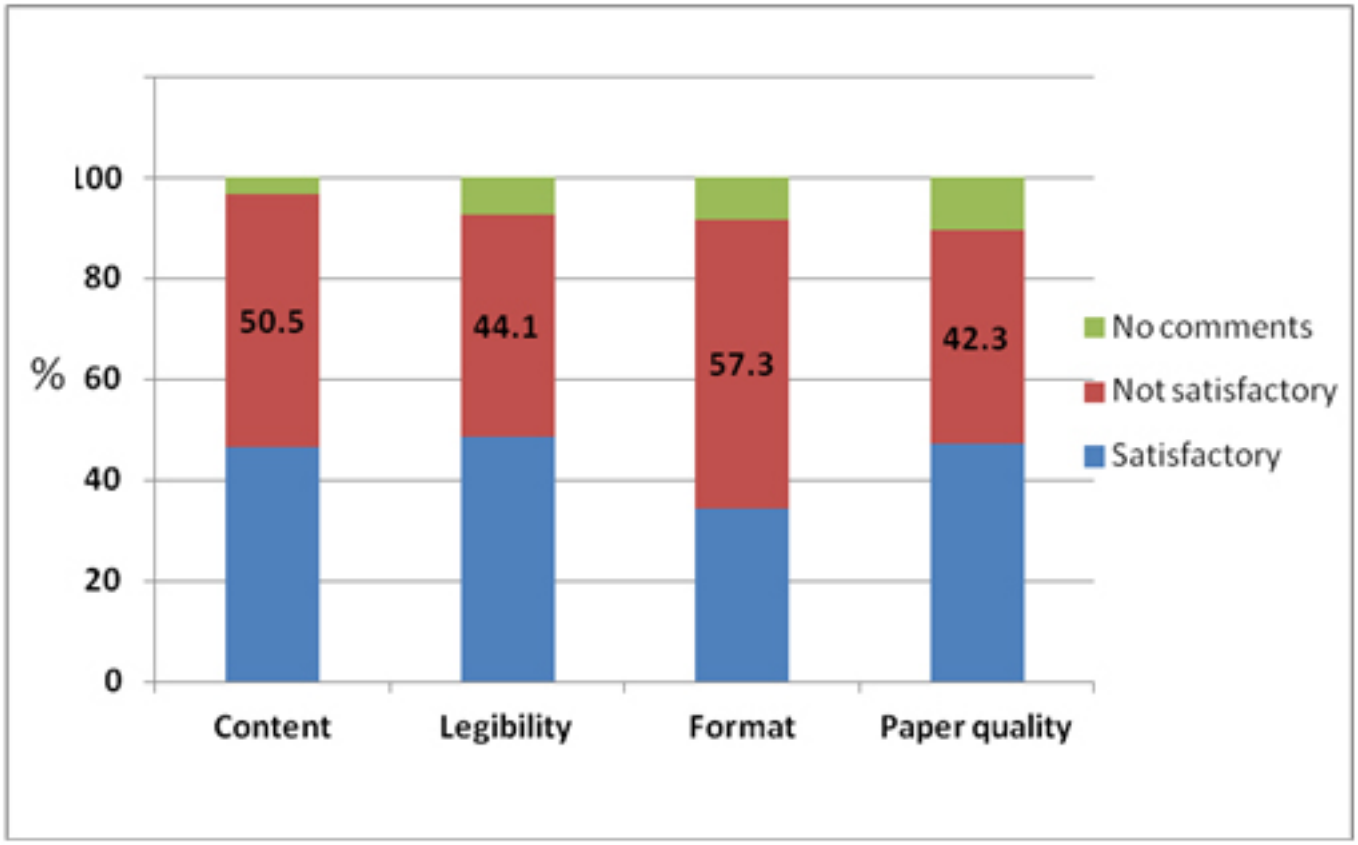


Table 2: Items of information expected by specialists

Item of information	Always %	if relevant %	Not required %	No comments %
Date	96.4	3.6		
Name of the patient	96.4	2.2	1.4	
Age of the patient	95.0	4.1		0.9
Presenting complaint	90.5	8.2		1.3
Other symptoms	32.3	65.0		2.7
Examination findings	50.0	48.6		1.4
Investigation results for the current condition	54.1	42.7	2.7	0.5
Treatment given for the current condition	81.4	17.7	0.9	
Comorbidities	42.7	54.1	2.7	0.5
Treatment for comorbidities	36.4	56.8	5.5	1.3
Family history	10.9	76.4	11.8	0.9
Social history	14.1	69.1	16.4	0.4
Drug allergies	64.1	33.2	2.3	0.4
Reason for referral	89.5	9.1	1.4	
Sender(GP)'s signature	79.5	6.4	10	4.1
Sender(GP)'s name	91.4	4.5	3.2	0.9
Sender(GP)'s qualifications	66.8	13.2	16.8	3.2
Sender(GP)'s Contact no	46.8	34.5	15.5	3.2
Recipient's name/designation	65.9	22.7	10.5	0.9
Recipient's place of work	37.7	28.2	28.6	5.5

Graph 2: Reasons for not replying

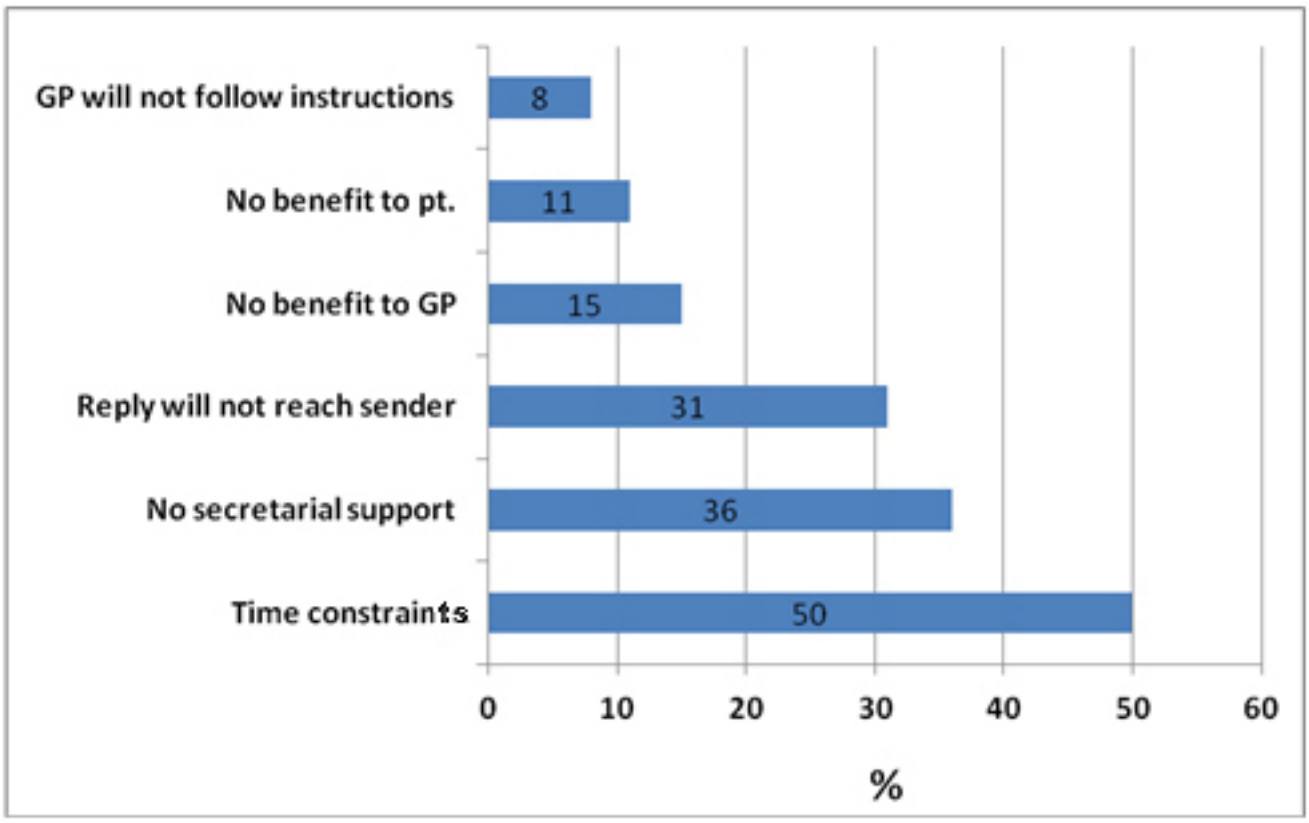


Table 3: Measures to improve the quality of referral letters

Measure	%
Continuous medical education	91.4
Introduction of a structured referral form	89.1
Strengthen undergraduate curriculum	82.7
Strengthen postgraduate curriculum	75.5

Discussion

This study sample included respondents from a broad range of specialties from both the state and the private sector heath care institutions from all the provinces of the country. Thus, although the response rate was only 20% it could be taken as a representative sample.

The results show that 55% of the specialists expected a referral letter from a GP always. The remaining 45% too indicated that they would be happy to receive one if it conveyed relevant information about the patient. However, this is contrary to the results of studies that show the non provision of a referral letter to the patient is due to the GPs' perception that specialists and hospital doctors are not keen to read their letters and writing a comprehensive letter is a futile exercise.(8) The experience of the specialists in this study did not differ and almost 50% of them rarely or never received a referral letter with referred patients. Awareness about these findings among the General Practitioners therefore may bring about a change in their attitudes about referral communications.

Specialists were unhappy with the quality of the referral letters. Most of the doctors (57%) were dissatisfied about the format of the referral letters. Good format facilitates quick retrieval of information and according to Rawal et al, format contributes to comprehensiveness of letters as well.(9) Letters were deficient in content as well and perhaps unsatisfactory format could be a contributory factor for omission of information. Audit of referral letters in Sri Lanka also revealed absence of important items of information in referral letters(10) which confirms the opinion of specialists. Legibility was also not satisfactory and it is a futile exercise to write an illegible letter. It's surprising that doctors have written letters in substandard

papers. It is evident from this study that specialists are dissatisfied with the quality of letters they receive and this could create a negative opinion of GPs' work among specialists.(11)

Items of information expected by the specialists show that they expect a comprehensive referral letter from primary care doctors. More than 90% of the specialists expected date, name and age of the patient, reason for referral and GP's name always. Name is the link between the patient's identity and ensuing details which helps to avoid medical errors. Date is the useful indicator of the time duration and the progress of the condition which enables proper evaluation of the patients' condition and its progression. Reason for referral shows the purpose of the referral. Other symptoms, examination findings, investigation findings, treatment tried, co-morbidities, treatment for co-morbidities and drug allergies were expected always or if relevant to the condition by more than 90% of the specialists. Family history and social history were expected only if relevant to the patients' condition by the majority. It shows that they do not expect a check list of information for each and every patient but relevant information for the particular patient. This finding will be a guide for primary care doctors as to what items of information should be included in their referral letters.

For continuity of care to be maintained, it's important that healthcare providers at all levels of care remain informed of relevant information pertaining to diagnosis, progress and management plans for each of their patients. Ideally all referred patients present to a hospital or a specialist with a referral letter which should return to the referring doctor with a reply letter. Replies to referrals are vital to enable comprehensive recording and follow up care at primary care level as well. Although 70% of the specialists admitted that they reply to referral letters always or most of the time, this is contrary to the views of general practitioners.(12,13,14) This interactive process should be balanced and mutual and this will result only if both primary care doctors and specialists respect each other.(6) Several studies have revealed lack of respect for GPs by specialists (8,15,16) and the Canadian RESPECT study(15) suggested that this could be improved by creating better relationships between GPs and specialists, enhancing profile of family medicine in Universities and teaching hospitals and by changing negative attitudes by promoting the expertise and role of family medicine. Specialists may not understand the special work situation in general practice where a doctor is usually alone with a broad spectrum of clinical problems and with minimal facilities.

Reasons pertaining to the work situation (Time constraints and lack of secretarial support), perceptions of health care system (reply letter will not reach the GP) and impression that there is no benefit to the patient or primary care doctor were the key reasons for not replying to referrals. Smith & Khutoane(17) also identified the same reasons for not replying to referrals. In addition they revealed poor quality referral letters, unnecessary referrals, and the way services are structured in hospitals also as contributory factors. Perhaps the qualitative nature of that study allowed participants more freedom to come out with a wide range of issues.

The factors which influenced specialists to reply to a referral were whether follow up of the patient by the sender was necessary or not and the type of the condition. Quality of the referral letter also mattered for almost 50%. Lachman & Stander revealed a correlation between the quality of referral letters and reply rates.(18)

Although workload and time constraints were mentioned as reasons for not replying, theoretically reply letters could be a solution for that problem also. A reply letter is an effective method of continued education of GPs which in turn improves patient care at primary care level leading to reduction of the number of referrals and prevents unnecessary referrals.(19)

Continuing medical education, undergraduate and postgraduate training and using a structured referral form for referrals were suggested by the specialists to improve the quality of referrals. A practical solution to improve the quality of letters would be to use printed structured referral forms.(12,20,21) Letter head will contain relevant details of the sender while subheadings of the structured format reminds information to be included, thus improving the content. There will be a pre designed format which would be a solution to unsatisfactory format in conventional letters and also helps retrieval of information by the recipient. A minimal number of words needs to be hand written thus providing an answer to illegible hand writing. If this letter is printed on a standard paper it solves the problem of using 'chits' to write referral letters.

Conclusions and Recommendations

- Specialists value referral letters from primary care doctors and they expect a comprehensive referral letter from primary care doctors.
- They are not happy with the quality of referral letters.
- Specialists are keen to reply to referrals but work pressures and deficiencies in the system prevent them from replying.
- General practitioners should be educated on the importance and specialists' attitudes towards referral letters. Education programs should strengthen and continuous medical education programs should be organized to improve the quality of referrals.
- Use of structured referral forms should be encouraged among GPs.

Appendix: The authors have supplied a Referral Form template for Sri Lankan and other doctors. It is in Word Format so you can customise it for your use
This can be downloaded from the MEJFM website at :

http://www.mejfm.com/September2014/ Referral form template.htm

References

1. Samarage SM. Migration and Human Resources for Health: From Awareness to Action, CICG Geneva 23-24 March 2006.
2. Ramanayake RPJC, Perera DP, De Silva AHW, Sumanasekara RDN. Patient held medical record: solution to fragmented care in Sri Lanka. theHealth 2013;4(3):51-57 3. Karunarathna L De A. Consulting wisely-an art in family medicine. Sri Lankan Family Physician 1999;22:8-15
4. Piterman L, Koritsas S. Part II. General practitioner-specialist referral process.
Intern Med J. 2005 Aug;35(8):491-6.
5. O'Donnell CA. Variation in GP referral rates: What can we learn from the literature? Fam Pract 2000;17:462-71
6. Thorsen O, Hartveit M, Baerheim A. General practitioners' reflections on referring: An asymmetric or non-dialogical process? Scandinavian Journal of Primary Health Care, 2012; 30: 241-246
7. Ramanayake RPJC, Perera DP, De Silva AHW, Fernando KAT, Athukorala LACL. Referral communication between primary and secondary/tertiary care; views of specialists. 1st national conference on family medicine and primary care April 2013, New Delhi, India. Abstract book :73.
8. Gandi TK, Sitting DF, Franklin M, Sussman AJ, Fairchild DG, Bates DW. Communication breakdown in the outpatient referral process. J Gen Intern Med 2000;15:626-631
9. Rawal J, Barnett P, Lloyd BW. Use of structured letters to improve communications between hospital doctors and general practitioners. BMJ 1993; 307: 1044.
10. Ramanayake RPJC, Perera DP, De Silva AHW, Sumanasekara RDN, Jayasingha LR, Fernando KAT, Athukorala LACL. Referral letters from general practitioners to hospitals in Sri Lanka; Lack information and clarity. Middle east journal of family medicine 2013;11(8):14-20
11. Natanzon I, Ose D, Szecsenyi J, Campbell S, Roos M, Joos S. Does GPs' self-perception of their professional role correspond to their social self-image? a qualitative study from Germany. BMC Fam Pract 2010; 11, 10. doi: 10.1186/1471-2296-11-10
12. Couper ID, Henbest RJ. The quality and relationship of referral and reply letters;
the effect of introducing a pro-forma letter. S Afr Med J 1996; 86: 1540-1542.
13. Siddiqi S, Kielmann A, Khan M, Ali N, Ghaffar A, Sheikh U, Mumtaz Z. The effectiveness of patient referral in Pakistan. Health Policy Plan. 2001 Jun;16(2):193-8
14. Ramanayake RPJC, Perera DP, de Silva AHW, Sumanasekera RDN, Jayasinghe LR, Fernando KAT, Athukorala LACL. Referral letter with an attached structured reply form: Is it a solution for not getting replies. Journal of Family medicine and Primary Care2013;2(4): 4.
15. Manca D, Varnhagen S, Brett-Maclean P, Allen GM, Szafran O. Respect from specialists. Can Fam Physician 2008;54:1434-5
16. Fulton J. The both of us. Can Fam Physician 2011;57:525
17. Smith S, Grace Khutoane. Why Doctors Do Not Answer Referral Letters
SA Fam Pract 2009;64-67
18. Lachman PI, Stander IA. The referral letter. A problem of communication. SAMJ 1991;79:98-100.
19. Gagliardi A. Use of referral reply letters for continuing medical education: A review. J Contin Educ Health Prof. 2002;22:222-9.
20. Navarro CM, Miranda IAN, Onofre MA, Sposto MR. Referral letters in oral medicine: standard versus nonstandard letters. Int J Oral Maxillofac Surg 2002;31:537-43.
21. Jenkins S, Arroll B, Hawken S, Nicholson R. Referral letters: are form letters
better? Br J Gen Pract 1997; 47: 107-108.

Sodium Stibogluconate treatment for cutaneous leishmaniasis: A clinical study of 43 cases from the north of Jordan

Mamoun Mohammad Al-Athamneh
Hiathem Qasem Abu Al-haija
Ra'ed Smadi
Ayman S. Qaqaa
Heba Ajlouni

Correspondence:
Dr. Mamoun Al-Athamneh
Amman, Jordan
Mobile: 0962 777 903852
Email: mamounathamnehh@yahoo.com

Abstract

Objective: to study the efficacy of Sodium Stibogluconate intramuscular injections in the treatment of cutaneous leishmaniasis, safety and side effects.

Method: A total 43 patients were seen over a period of 12 months, from January 2009 to December 2010. All cases were seen at Prince Rashed Military Hospital in the north of Jordan. The diagnosis of localized cutaneous leishmania was made on clinical grounds proved by leishmania smear or skin biopsy. The distribution of patients according to gender, age groups, time of the year, was made. The criteria for sodium stibogluconate injection were: the severity of symptoms, site of lesion on face (ear, nose and cheek), and multiplicity of lesions. The dose of sodium stibogluconate given was 10 mg\kg given as intramuscular injections daily for total two weeks followed by complete blood count, liver function test, electrocardiogram as base line.

Results: 23 patients were males and 20 were females (16 of them were 14 years and below). The age group ranged from 2-72 years. One patient (2.3%) had resistant infection to sodium stibogluconate; and an admission was for one patient (2, 3%) for a few days because of a picture of Hepatotoxicity. 42 patients showed improvement of the lesion (98%); improvement is defined when the lesion flattens and ulceration disappears.

One patient (2.3%) demonstrated increase in liver enzymes after one week of treatment' upon stopping treatment for one week the patient then resumes treatment with no complications and with complete remission.

Conclusion: Many cases of cutaneous leishmaniasis are seen in Jordan causing cosmetic problems. Early introduction of systemic anti-leishmania agent is recommended. Sodium stibogluconate is an effective way to decrease scarring and dispigmentation, with minimum side effects.

Key words: cutaneous leishmania, sodium stibogluconate, scar

Introduction

Leishmaniasis is a widely distributed disease with both visceral and cutaneous manifestations. Cutaneous leishmaniasis is the most common form of this disease. It has an annual incidence of 1 to 1.5 million cases. 90% of cases are reported in just six countries, Afghanistan, Brazil, Iran, Peru, Saudi Arabia and Syria (1). Cutaneous leishmaniasis causes three distinct clinical entities: localized cutaneous leishmaniasis (a few lesions), diffuse cutaneous leishmaniasis (large number of lesions), muco-cutaneous leishmaniasis (involving mucus membrane like nose, mouth, larynx). Other leishmania species may attack viscera causing visceral leishmaniasis or kala-azar (1,2).

Cutaneous leishmaniasis is divided into: the Old World and new world leishmaniasis (3). Old world leishmaniasis is due to L. major (zoonotic cutaneous leishmaniasis which tends to heal within 2-4 months), L. tropica (anthroponotic tends to heal 6-15 months), L. aethiopica and to L. infantum, which is responsible for all the cutaneous disease in the northern Mediterranean region and for some of the disease in North Africa.

In the New World, localized cutaneous leishmaniasis is caused mainly by L. peruviana, L. guyanensis, L. braziliensis or L. mexicana species. Diffuse cutaneous leishmaniasis is an infection caused by L. aethiopica in Africa, and L. amazonensis in South America. However, diffuse cutaneous leishmaniasis is also observed in immunosuppressed patients infected with species isolated commonly in localized forms. Mucosal dissemination is described in South America. It is caused by L. braziliensis, and, less frequently by L. panamensis or L. guyanensis(4).

Leishmania is highly contagious with at least ninety percent attack rate among susceptible individuals (5). Affecting children mainly, usually lesions are at site of sandfly bites on exposed areas like face (7).

Cutaneous leishmaniasis is a disfiguring disease that normally resolves within 3 to 18 months of initial infection. Treatment aims to cure as well as prevent the development of more complex manifestations like Muco-cutaneous leishmaniasis and disseminated cutaneous leishmaniasis (10).

This study was conducted to examine cutaneous leishmania cases seen over a 12-month period, taking into consideration patients' ages, the time of occurrence during the year, the symptoms and signs at presentation, the treatments given and the complications encountered in affected patients.

Methods

Forty three patients clinically diagnosed to have cutaneous leishmaniasis were seen at Prince Rashid Hospital over a period of 12 months (between January 2009 to December 2010). The distribution of patients as regards the time of disease occurrence during the year, sex and age group, were documented. The diagnosis of cutaneous leishmania was established on clinical grounds. Nodulo-ulcerative skin lesion, with erythematous, violaceous, edematous edge were the most common presenting features. Laboratory investigations were carried out for all patients and included leishmania smear to demonstrate Donovan bodies, skin biopsy was done only if the lesion was clinically suggestive but smear negative, followed by routine and biochemical blood tests including liver function test, ECG as base line.

All patients were given systemic sodium stibogluconate intramuscular injections, 10 mg/kg per dose daily for two weeks. The 1st injection was given in the clinic with the availability of resuscitation facilities to observe and interfere if anaphylactic reaction developed, then patient completed the course of injections at the nearest clinic. Patients received instructions in regard to the nature of disease and treatment options and to apply topical antibiotics. All patients were re-examined at follow up visit after two weeks to ensure complete cure of the lesion.

Simple non-parametric statistical analysis was made when necessary.

Results

Twenty three patients (53.5%) were males and 20 patients were females (46.5%). The age ranged from 2-72 years. The site of involvement in our patients is shown in Table 1. The distribution of patients according to age groups is shown in Table 2. The patients were from four districts, Table 3. The face was commonly involved (49%) : cheeks (39.2%), nose (18%), forehead (14.3%), pinna (14.3%), lip (10.7), eyelid (3.5%).

One patient (2.3%) who was hospitalized, was 6 years old with three skin lesions on hand, neck and ear and received 2 ml sodium stibogluconate IM injections for one week and came to hospital with nausea, vomiting, abdominal pain. Liver function test showed raised liver enzyme SGOT 1838, SGPT 1306 Alkaline phosphatase 316, the 2nd day after cessation of therapy SGOT and SGPT dropped to 1314,741 respectively. WBC, PCV, PLATELET were normal. PT, PTT, INR normal, abdominal U/S normal, HBSAG, HC antibodies were negative. After 6 days SGOT and SGPT dropped to 180 and 175 respectively; lesions at these time showed 70% improvement.

One patient (2.3%) who had ulcerative nodule at the lower lip, clinically consistent with Cutaneous leishmania. Leishmania smear was negative but biopsy confirmative, and patient received sodium stibogluconate injection for one week and developed a slight rise in liver enzyme, Patient was stopped for one week and returned to normal resumption of injections with no complications with complete healing but with atrophic scar.

One patient (2.3%) received sodium stibogluconate injections for two weeks but did not show clinical improvement after completion of the course of injections, and was given alternative treatment.

Table 1: Site of involvements and their percentages

Site	Number of patients	Percentage
Face	21	49
Hand , forearm	8	18.6
Foot, leg	7	16.2
Neck	2	4.6
Multiple sites	5	11.6

Table 2: The distribution of patients according to age group

Age group	Number of patients	Percentage
2-19	21	49
20-29	6	14
30-39	6	14
Above 40	10	23

Table 3. The demographic distribution

District	Number of patients	Percentage
Irbid	15	35
Jarash	2	4.5
Ajloun	21	49
Al-Ghour	5	11.5

Discussion

Leishmaniasis are a group of chronic infections affecting human and other animal species, belonging to flagellated protozoans of the order kinetoplastidae, and transmitted by the bite of sandflies of the genera phlebotomus and lutzomyia (5). It is an obligate intracellular parasite that presents in two forms: promastigote in the gut of sandflies where it multiplies and migrates to the proboscis and is introduced to the host whether human, rodent, or other animal species and immediately phagocytosed by host phagocytes where it changed into amastigote(7). It is considered to be a self- limiting disease when localized to skin but always heals with retracted scar and dispigmentation but some may become chronic or disseminated(2).

In endemic areas like Jordan where transmission is stable, children are especially affected. Un our study children were affected in 37% of the cases, as shown in Table 7, and the cumulative rate of infection as determined by the presence of scars and positive leishmanin tests may approach 100%.

The treatment of cutaneous leishmaniasis depends on the species of leishmania but identification of the species by culture and isoenzyme is time consuming. Also new techniques of DNA amplification by polymerase chain reaction are not widely available which makes treatment depend on the geographical area and the epidemiology of the disease; the main cause of cutaneous leishmania in our area is leishmania tropica (5).

Cutaneous leshmaniasis is the primary infection with one of the leishmania species starting as a papule then increasing in size resulting in a nodulo-ulcerative lesion, usually on exposed areas at the site of sandfly bite (5). In our study, there are 21 cases (49%) involving the face, 8 cases (18.6%) involving the hand and forearm, 7 cases (16.2%) involving the foot and leg, 2 cases (4.6%) involving the neck, 5 cases (11.6%) involving multiple sites of those mentioned above with no single case involving a non-exposed area.

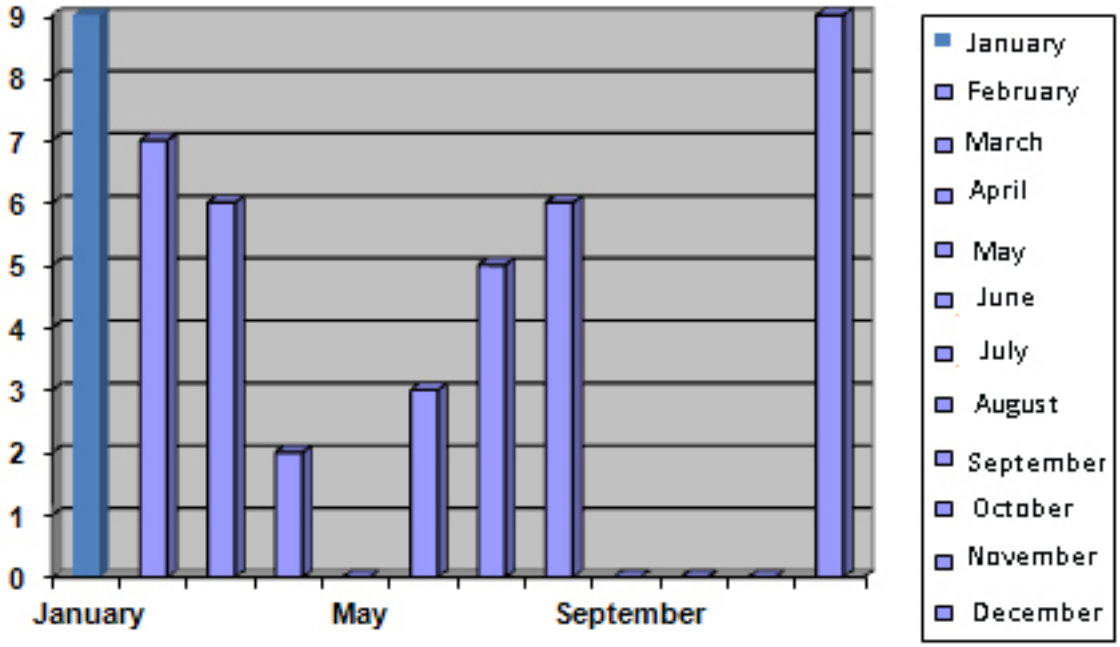
Ajloun district had the highest number of patients simply because towns of Ajloun are geographically appropriate for sandflies living and reproduction regarding temperature and humidity.
Our study shows the highest number of patients in January and December then March (Figure 1, next page), and this may be due to rainy season in winter with the formation of swamps which allow reproduction and growth of sand flies which facilitate vector transmission.

Pentavalent antimonials are the mainstay treatment for both visceral and cutaneous leishmaniasis (8). Two forms are currently available: meglumine antimoniate and sodium stibogluconate. The mechanism for their effectiveness is not well understood, but may involve inhibition of adenosine triphosphate synthesis(9).

The face is affected in 49% of the cases; it results in scarring and dispigmentation which is disfiguring on the face.

It is generally recommended that anyone with cutaneous leishmaniasis is to be treated with systemic sodium stibogluconate (especially children and when face is involved) because scar and dispigmentation will be inevitable and disastrous. Systemic antimonial decrease the size of the lesion, there is no progression to ulceration

Figure 1: The distribution of patients according to the time of year



and results in less scarring, and rapid healing. Therefore, we started all patients on sodium stibogluconate injection for two weeks; 98% showed complete cure of the lesion upon follow up 2-3 months after completion of the course.

One of the most important side effects of sodium stibogluconate is prolongation of QT interval predisposing to arrhythmias, which are uncommon when used in doses less than 20mg/kg and within a period of less than 2 weeks (6). In our study base line ECG was done excluding patients with abnormal Electrocardiogram from the study; follow up Electrocardiogram was done with no change.

Hepatotoxicity is another side effect of sodium stibogluconate injection which is reversible withen 6 weeks of cessation of treatment (6). Base line liver function tests were done to exclude any patient with liver disease from the study; two patients developed increases in liver enzyme which returned to normal within two weeks of cessation of treatment.

Wide use of sodium stibogluconate in the treatment of cutaneous leishmaniasis can result in the emergence of a resistant strain(9). In our study one patient did not show improvement clinically after completion of the course of injections (still the lesion was wet and increasing in size). The mechanism for the development of resistance is not well understood. It could be an intrinsic difference in the species sensitivity to these medications; another mechanism is the efflux of a drug or its active derivative(9).

Studies showed that the addition of allopurinol to the treatment regimen gave better results regarding decrease of the size of the lesion and clearance (4). In our resistant case just when it showed no healing, a change to rifampicin 300mg daily for 2 weeks allowed healing of the lesion.

In addition, there are several alternative treatment options available; local infiltration with sodium stibgluonate of the whole lesion intradermally with 2-3ml every week until 4 weeks (4). Also Oral zinc sulphate (5 mg/kg/day for 4 weeks) showed promising results in a recent Indian trial (8).

Cryotherapy using liquid nitrogen is a well known option for treatment in the middle east including Jordan where 2-3 sessions for 20-30 seconds freezing (one month interval) resulted in healing of most of the lesion but with a different degree of atrophic scar and dispigmentation. But when multiple lesions, large lesions, over the joint, are on the face, the cosmetic unit usually tries to avoid cryotherapy.

Conclusion

Cutaneous Leishmaniasis is cosmetically disfiguring and slowly growing skin lesions are not fatal but occasionally can result in significant morbidity especially when present on the face.

Early treatment with systemic antimonial agent is essential in the adults and children to prevent or decrease the risks of complication like: scarring and dispigmentation.

We believe that it is highly recommended to give systemic sodium stibogluconate injection to all patients with Cutaneous leishmaniasis, especially when certain areas like ear, eyelid, lip, cheek, nose, and multiple lesions are present.

References

1. World health organization (WHO). Leishmaniasis: background information . A brief history of disease .WHO. 2009. available from: www.WHO.int\leishmaniasis.
2. Omar Lupi. Protozoa and worms. In: bolongia dermatology 2nd Ed.2008.p.1263-1265.
3. Blum J, Desjeux P, Schwartz E, Beck B, Hatz C. Treatment of cutaneous leishmaniasis among travellers. J Antimicrob Chemother 2004; 53:158-66.
4. Philippe Minodiera, Philippe Parolab. Cutaneous leishmaniasis treatment. Travel Medicine and Infectious Disease (2007) 5, 150-158(review article free online).
5. Barbara L. Herwaldt. Leishmaniasis. In: Kasper DL (Editor-In-Chief). Harrison's principles of internal medicine. 16th Ed. New York: McGraw-Hill Companies, Inc. 2005. p. 1233-1236.
6. Wise ES, Armstrong MS, Watson J, Lockwood DN. Monitoring Toxicity Associated with Parenteral Sodium Stibogluconate in the Day-Case
Management of Returned Travellers with New World Cutaneous Leishmaniasis. PLoS Negl Trop Dis 6(6): e1688. doi:10.1371/journal.pntd2012 (free online).
7. Wolff, Klaus; Goldsmith, Lowell A. Leishmaniasis and other protozoan infections. In: Fitzpatrick's Dermatology in General Medicine, 7th Edition. McGraw-Hill, Inc. 2008. ch. 206
8. J.A.A. Hunter, J.A. Savin, M.V. Dahl. Leishmaniasis. In: Clinical dermatology. 3rd Ed.2003.p.201-202.
9. Arun Kumar Haldar, Pradip Sen, and Syamal Roy .Use of Antimony in the treatment of Leishmaniasis: Current Status and Future Directions. Review Article. Molecular Biology International at: http://dx.doi.org/10.4061/2011/571242.2011.
10. Tracy Garnier & Simon L Croft. Topical treatment for cutaneous leishmaniasis.
Department of Infectious and Tropical Diseases, London School of Hygiene & Tropical Medicine. Email: simon.croft@lshtm.ac.uk ,Current Opinion in Investigational Drugs 2002 3(4):

The Tale of the Middle East ‘s Children

Safaa Bahjat

Correspondence:
Dr. Safaa’ T. Bahjat (Allergologist)
MBChB, MDAID
Kirkuk ,Iraq
Email: dr.safaabahjat@hotmail.com

Adlai Stevenson said ‘Making peace is harder than making war’.

Why do I write this? I write this because I am brimming over and writing is the only way to let it out. It comes fast and furious. I write for the helpless innocent children who did not have the right to choose the accident of their place of birth and when I was not really thinking about it ,the sensations aligned themselves the hands and feet worked together and I found that the clutch engaged, and I had slipped into writing gear without really paying attention. Like the athletes on the most difficult challenges ,using the proprioception of the whole body to excel, pushing through the pain to where the body feeling becomes pleasure, I ought to take the writing past the point of pain to satisfaction.

Introduction

In the Middle East, children bear disproportionate consequences of armed conflict. The 21st century in Iraq ,Syria, Palestine, Yemen and Lebanon continues to see patterns of children enmeshed in international violence between opposing combatant forces, as victims of terrorist warfare, and, perhaps most tragically of all, as victims of civil wars. Innocent children so often are the victims of high-energy wounding from military ordinance. They sustain high-energy tissue damage and massive burns - injuries that are not commonly seen in civilian populations. Post-traumatic stress disorder remains an undertreated legacy of children who have been trapped in the shot and shell of battle as well as those displaced as refugees.

The stigma of the ugliest economic sanctions and the dirty oil for food program imposed on Iraq will be the companion of the grave for all those who approved that security council resolution, nearly a million Iraqi children died because of it. I recall the sadness of an old friend, an Australian woman when she was watching the news, as she wrote to me later, by the view of the medical staff in Baghdad who were trying to insert an adult urine catheter for a child because of the shortage of catheters.

Economic sanctions is one type of catastrophic disaster that ranks, from the perspective of the child, with other disasters, such as earthquake, famine, cyclone and epidemic pestilence. Children are killed in war by the direct effects of blast, bomb and missile and are injured

by burns, gas and rubber bullets. Large numbers die from exposure, disease and starvation. During conflict, in the protracted periods between shelling or hand-to-hand assaults, children live in fear of impending attack. Much has been written about the stress reactions of children trapped in such circumstances, especially of those under missile threat, such as occurred in the Gulf War.

Currently, children experience the daily threat of suicidal car bombings in more than one country. No-one knows how many children are killed and injured by suicidal car bombings in the aftermath of both Iraq invasion and civil war, the same thing is true in the Syrian conflict. The medical consequences of car bombings, as these affect children, are well known. Avulsion of one or both feet or lower limbs, shrapnel fragmentation wounds to the pelvis and abdomen , and blinding in one or both eyes are common. Conductive deafness is almost inevitable. The legacy of legless, partly deaf, partly blind and orphan children is a challenge for preventive medicine and one that the international medical profession - indeed all who care for children - cannot ignore.

'The mind in infancy is, methinks, like the body in embryo; and receives impressions so forcible, that they are as hard to be removed by reason, as any mark with which a child is born. …'

A proportion of those who survive with life and limb intact inevitably carry the scars of war, of natural disaster, or of refugee existence into their lives and sometimes to the next generation.

The few studies of children in the aftermath of war and other catastrophic disasters have documented fear-conditioned responses to the experience of early violence. These include regressive or aggressive behaviour, another long-term legacy of early exposure to the violence of armed conflict. Most adults have had the experience of an unaccustomed food-smell or plant-odour giving one an instant flashback to one's youth. Normally these are pleasurable instant recollections - survivors in the human rhinencephalon of the highly developed 'smell-memories' of lower animals. Children who have survived war also experience these - but the triggers are the smell of burning, of bloody wounds and of high explosives.

The influence of such stress starts from the time of birth. The average birth weight of children and the nutritional indices of those infants who continued to be breastfed were reduced. That was crystal clear in the south and west parts of Iraq like Falloja and Nassyria cities.

Of greater import is the fact that if children are exposed to the maiming and killing of war, they carry into their adult lives a new datum reference point - that violence is the basic relationship that characterizes humankind. There is a danger that the offspring of these child survivors of warfare will, in a quasi-genetic, second- and third-generation transmission, be exposed to influences where violence is more likely to be regarded as acceptable, or even regarded as the normal state of affairs.

One of the most important attributes of childhood is the development of conscience. That is, the acquisition of a sense of higher-order morality and ethics. The development of this sense of what is right and what is wrong, of this sine qua non of supra-animalistic life, depends enormously on the experiences of childhood. It is especially related to experiences in early childhood. Exposure to violence, to cruelty and to the systems of war where the resolution of problems is perforce solved by force during the childhood years is inimical to the development of conscience. One precondition for conscience and the normal development of an evolving ethical and moral sense is 'sensitivity to people who do not belong to one's own narrow circle', as the German writer Christa Wolf espoused in her autobiographical novel A Model Childhood/. War-imposed terror and cruelty, directed against others but observed by the child, determine the norm in the evolving conscience of a growing child. Post-traumatic stress disorder, with its morbidity of personal distress and agony, has been very much a featured disease of the late 20th and 21st centuries. Children are less likely than adults to talk about such episodes or to understand their genesis. Nevertheless, recurring obsessive thoughts of horror, flashbacks and recurring dreams either of stark reality or of symbolic illusion are some of the chronic symptoms of this childhood disorder. Because children do not write, while they are children, about their traumatic experiences, it is easy to overlook the immediate effects of war on them. We catch occasional glimpses of these effects through the eyes of children in such works as Frankenstein in Baghdad or second-hand through the eyes of physicians and paramedical staff who care for such children. The important issue here is to maintain advocacy that combat, especially that enjoined in civil war, brings with it a post-conflict debit, often unanticipated, but one that needs to be marked in red on the balance sheet of both victory and defeat. All with personal experience of civil and guerrilla warfare are familiar with the secondary effects of social disruption on children's lives. In international war, or in civil war situations where there is a breakdown of law and order, exploitation of children in the form of child labour , child and teenage prostitution, child drug dealing and forced military service become accepted as the normal societal state. There is also the abduction of children as we had seen in Iraq either to get ransom if the family was wealthy or for organ trade if they were poor.

Child soldiers, as the term is used today, make up a new class of combatants distinct from those of immature years who have, since the times of ancient Greece, served in uniform as an adjunct to the armies of the past. The child soldier of today reflects a triad of anarchic civil war, high technology and lightweight weaponry, and drug or alcohol addiction. Child soldiers have no socialization of any higher ethic other than that of violent exploitation to satisfy the dictates of short-term gratification of instinctual

drives. The tragic and new syndrome of child soldiering most often affects boys between the ages of 8 and 18 years; they are bonded into an armed group of peers, almost always orphans, drug or alcohol addicted, amoral, merciless and dangerous, illiterate, armed with an automatic or semiautomatic weapon and a knife; they rape, steal and pillage without compunction or remorse. Their targets are never strategic or tactical, but personal. They are opportunistic in their choice of victims, and do not discriminate between male or female, young or old, civilians or soldiers. The modus operandi of killing is often brutal, even involving mutilation. These child soldiers have become a phenomenon newly encountered in the 20th century and accruing with a tragic currency in the new millennium. The theme of child soldiering is a pragmatic and inescapable contemporary issue for what is now the global village of all humankind. Child soldiers are vulnerable to three profound sequelae in their adult lives. The first of these is that the desocialization and dehumanization of a young adolescent's mind becomes self-perpetuating. The excitement of interpersonal physical conflict, of combat, of dominance and of sexual violence entraps such victims. Second, the 'lost childhood' of these victims means that schooling and subsequent rehabilitation are very difficult. Third, although as yet there is no published work on the long term sequelae of 'life and childhood in combat ranks', all who work with children and adolescents are aware of the inescapability of post-traumatic stress disorder. In particular, someone enmeshed throughout their formative years in society-induced psychopathy is very difficult to rehabilitate. The responses of young adolescents to violence and disaster cause profound changes in their attitudes towards life and their future. Adolescents exposed to trauma demonstrate increased risk-taking behaviour. Often, in the pre-recruitment phase when a child or young adolescent is particularly vulnerable to enlistment as a child soldier, he or she has already lost both parents, some or all of their siblings and their extended family. The situation can be compounded by the fact that when parents or other close relatives are lost in massacres, landmine or bomb blasts, or in epidemics, the normal rituals of closure do not occur.

Young adolescents enmeshed in civil wars are constantly exposed to threats on their own lives. They have been shown to be associated with perhaps the highest risk of psychiatric morbidity. Those who are themselves injured by violence or disaster are at highest risk. Exposure to dead bodies and mutilated victims increases the potential for adverse psychiatric sequelae. Of the many different types of stressor, the most powerful predictor of post-traumatic stress disorder is physical violence itself.

Children and young adolescents are traumatized as child soldiers. As they are the perpetrators of violence, this trauma might simply be a chronological sequel to their entire lifetime experience, they themselves having been traumatized as preschool children. Preschool children exposed to violent trauma, even in the civilian sphere, are known to exhibit behavioural re-enactments of such trauma in their play and story-telling. The anarchic milieu in which child soldiers operate provides a gruesome and tragic opportunity for them to live out their fantasies of revenge in real life. Violent behaviour by male adolescents is highly correlated with prior personal violent acclimatization, even in otherwise stable, civilian, developed nations where violence, victimization and later physical assault perpetration are not generally condoned. Adolescent males, in particular, are likely to re-enact their own experience of violence victimization by perpetrating similar forms of violence on others. There are no reports of quantitative studies of violence exposure of child soldiers; not surprisingly, as almost all child soldiers are illiterate. 'A key issue is what to do with thousands of young men who have, over two decades of conflict, learned little more than how to pull a trigger. Some adolescents exposed to violent trauma respond by developing the certainty that life will be short and that a shortened future with an enhanced sense of fragility is their lot.

Under such circumstances, pathologically socialized young adolescents join the flight into hedonism. In the current civil war in Syria , many of refugee camps have witnessed the death of their children or of a child in their care. Many reports show that someone in the family has attempted suicide. These stresses on children do not apply only to the vanquished. Australian children, the offspring of Vietnam veterans, have a suicide rate threefold that of the general community; and there is every indication that the high numbers of suicides among veterans' children will continue, as they pass through ages for even higher risk of suicide. In this context, all would agree with Benjamin Franklin that 'There never was a good war or a bad peace'.

We can do much to ensure that the children of a future world will have better opportunities for a normal and enriched childhood, irrespective of the accident of their place of birth.

References

1- Pearn JH. Children in War. Inaugural address of the Save TheChildren Fund (Queensland), 26 February 1994. Save the Children
Fund Queensland, Brisbane, 1994; 1-19.
2- Pearn JH. The cost of war: Child injury and death. In: Bhutta ZA,ed.Contemporary Issues in Childhood Diarrhoea and Malnutrition.
Oxford University Press, Oxford, 2000; 335-43.
3- Machel G. The impact of armed conflict on children. Proceedingsof the International Conference on War-Affected Children; September
2000; Winnipeg, Canada. Government of Canada, Ottawa,2000. Available from: http://www.war-affected-children.org/machel-e.asp [Chapter 2. Child Soldiers: 7-10].
4- Pynoos RS, Nader K. Psychological first aid and treatmentapproach to children exposed to community violence: Research implications. J. Trauma. Stress 1988; 4: 445-73.

5- Fehon DC, Grilo CM, Lipschitz DS. Gender differences in violenceexposure and violence risk among adolescent inpatients. J. Nerv. Ment. Dis. 2001; 189: 532-40.
6- Haddock G, Pollok AJ. Paediatric trauma in Northern Iraq: theKurdish refugee crisis. J. R. Coll. Surg. Edinb. 1992; 37: 221-4.
7- Harvard Study Team (USA). The effect of the Gulf crisis on thechildren of Iraq. N. Engl. J. Med. 1991; 325: 927-80.
8- Al-Khawaja JM. Clinical description of children's anxiety during the Gulf War. Psychol. Report. 1997; 80: 733-4.
9- Bell J. War and peace, a letter to E.M. Forster. In: Bell Q, ed.Julian Bell, Essays, Poems and Letters. Hogarth Press, London,
1938; 386.
10- Franklin B. Letter to Quincy, 11 September 1783.

Certain Determinants Affecting the Current Choice of Family Planning Methods Used by Women Attending Some Family Planning Clinics in Baghdad City

Sanaa Jafar Hamodi Alkaisi (1)
Amjad Daoud Niazi (2)

(1) M.B.Ch.B, F.I.B.M.S.\F.M Associated Professor of Family Medicine, Senior Specialist Family Physician, Supervisor in the Residency Program of Arab Board of Family Medicine, Member in the Executive Committee of Iraqi Family Physicians Society (IFPS), Co-manager of Bab Almudhum Specialized Family Medicine Health Center , Baghdad, Iraq.
(2) M.B.Ch.B ., D.T.P.H., PhD. Professor of Epidemiology and Community Medicine, Consultant in Epidemiology and Community Medicine. Specialist Physician. Baghdad, Iraq.

Correspondence:
Associated Prof. Dr. Sanaa Jafar Hamodi Alkaisi
Co-manager of Bab Almudhum Specialized Family Medicine Health Center, Baghdad, Iraq.
Email: drsanaaalkaisi@yahoo.com

Abstract

Family Planning methods have indeed found wide acceptance in many parts of the world and their use has had a major impact on women's and children's health around the world.

There are certain determinants (factors) which affect women's current family planning method choice.

The study was conducted on a convenient sample including (400) women who attended 3 family planning clinics in Baghdad.

An interview was conducted by the investigator on determinants of the current choice of family planning method, the reasons for this choice and persons who participated in choosing the method. This study showed that the oral contraceptive pills were the most preferable (65.3 %) followed by intrauterine device (19.8 %), then hormone injection (10.8 %), then condom (4.3 %).

The study found that the main determinants of oral contraceptive pills choice were duration of marriage < 15 years, age of the last child ≥ 2 years old and number of living children ≥ 4. While the choice of injectable was determined by husbands marriage aged ≥ 25 years, the choice of intrauterine devices was determined by husbands aged ≥ 35 years old, unemployment of the wife, absence of stillbirths and the age of last child ≥ 2 years old, and lastly the main determinant of choice of condom is the absence of female offspring.

The main reason which determines women's choice is the harmlessness of the method.

The study found that the doctor was the main person who participates in determining the current family planning method choice.

The study recommends to increase knowledge of both partners to choose appropriate and suitable methods for them through increasing the role of mass media and preparing family doctors to offer family planning services, and to involve husbands in family planning counselling sessions after communication with their wives to decide the suitable method for them.

Key words: Certain determinants ,Current Choice, Family Planning methods

Introduction

The Alma Ata declaration identified family planning (F.P.) as an essential component of health for all by the year 2000. [1]

A call to reduce infant and maternal mortality rates by half was part of the platform of action of the international conference on population and development held in Cairo in 1994. [2]

This was reaffirmed at the fourth world conference on women held in Beijing in 1995. [3]

No other technologic advance has so profoundly affected women as the ability to control fertility by using effective contraception. [4]

There are many factors determining the choice of F.P. methods by women including factors related to acceptability such as cost, mechanism of action and characteristics of the methods and factors related to safety and social aspects. [4]

Other factors influence individual contraceptive expectation and choices such as their own knowledge, the information they are given, their current life style, religion, ethnicity, their own perception and the perception of others. Also there are clients' characteristics such as age, number and sex of children and frequency of intercourse. [5]

Aims of the study :

1. To investigate the use of contraceptives in a convenient sample of Iraqi women.
2. To know some demographic, socioeconomic and fertility related factors which determine women's current choice of F.P. methods.
3. To know reasons and persons behind women's current choices of F.P. methods.

Patients and Methods

Sample size :

A convenient sample of 400 eligible ever married women aged 15 - 50 years ware selected in three FP clinics in Baghdad City (FP clinic Baghdad Medical City Teaching Hospital, FP clinic of Al - Kadhimiya Teaching Hospital and FP clinic of Al - Habibiya Teaching Hospital).
It is a cross sectional survey of the studied sample.
The selection of the subjects was as 1 - 2 days a week excluding Friday (which is the weekend in Iraq), from November 2003 to July 2004.

Inclusion criteria : We limited our sample to women who are exposed to conception, those who are married, aged between 15 - 50 years and fertile women.

Exclusion criteria :

Single, infertile and pregnant women (as possible).
3.4 Method of data collection :

Method of data collection was by an exit interview for women attending FP clinics, using a questionnaire form (appendix) designed by the researcher.

The study was of two parts, the first part included 224 women and the second part included 176 women;, the questionnaire was modified to reflect the gender of the offspring of the respondents.

Statistical analysis :

Data were entered, compiled, coded, tabulated, statistically analyzed and presented as percentage distribution with examination of the determinants of FP methods choice by using the (EP16) computer program and Statistical Package for Social Science (SPSS) computer program for doing these tasks.

A level of 0.05 was used to determine statistical significance. [6]

In the analysis of data, the dependent variable was contraceptive method which was used at the time of survey.

Contraceptive methods include OCPs, IUDs, injectable and condoms. Other methods such as diaphragms, sponges, implants and chemical sterilizers were not included because they were not available at time of survey.

The independent variables include :

1. Demographic variables.

a. Age of women and that of their husbands. The variable of women's age and her husband was grouped by six age groups :
< 20, 21-25, 26-30, 31-35, 36-40, and 40 years or older.
b. Age of marriage of both women and their husbands. These variables are constructed with seven groups : < 15, 15-19, 20-24, 25-29, 30-34, 35-39, and > 40 years.
c. Duration of marriage : this is replaced by 5 groups : < 5, 6-10, 11-15, 16-20, and > 21.
d. Wife and husband's education : we measured it by five categories : illiterate, primary, intermediate, secondary, college.
e. Wife and husband's occupation : is constructed as two groups : employed and unemployed.

2. Fertility related variables :

a. Number of pregnancies : was categorized into four groups : 1-2, 3-4, 5-6, and 7 or more.
b. Age of last child was categorized into five groups : < 1, 1-2, 3-4, 5-6, 7 or more.
c. Number of living children was categorized into five groups : 0, 1-2, 3-4, 5-6, 7 or more.
d. Number of dead children : was categorized into six groups : 0, 1, 2, 3, 4, 5 or more.
e. Number of male and female offspring. Each one was categorized into five groups : 0, 1-2, 3-4, 5-6, 7 or more.
f. Types of previous contraceptive method use was categorized into two groups as users and non-users.

Results

The characteristics of the sample :
The studied sample size was 400 and analysis was done on 400 questionnaires, (Table 1).

Women were distributed according to certain demographic factors such as women's age, marriage age, educational level, employment status and age of her husband, his marriage age, educational level, occupation and according to duration of their marriage, (Table 1).

1.1 Women's age:
Women at age below or equal to 20 years were the least group (2.3%) and the largest group were between 31-35 years (26.3%), (Table 1).

1.2 Educational level of women:
A large number of women had finished primary school (56%) while a small percentage of women were illiterate (4.8%), and (6.8%) had finished institute or were college graduates, (Table 1).

1.3 Women's marriage age:
A large percentage were married at age 15-19 year old (40.5%) followed by (33.3%) of women who were married at age between 20-24 years old. The lowest percentage of women were married at age equal or more than 40 (0.3%) followed by (1.3%) of them were married at age 35-39 years, (Table 1).

1.4 Occupation of the women :
94.2% of the women were housewives and only 5.8% of them were working. (Table 1).

1.5 Age of husbands :
The largest percentage of husbands was aged equal to or more than 41 years old (37.8%) and husbands at age < 20 years were the least (0.3%). On the other hand, husbands at age between 21-25 years old were also low (3.8%), (Table 1).

1.6 Husbands' education :
The largest number of husbands finished primary school 38.5% and only 14.8% of them finished higher education and 2.3% of them were illiterate, (Table 1).

1.7 Husbands' marriage age :
The largest percentage of husbands were married between 25-29 years old (34.5%) with nearly equal percentage of them married between 20-24 years old (34.3%) and the least percentage of them were married below 15 years and those who married at ≥ 40 years were also low (2.3%), (Table 1).

1.8 Husbands' occupation :
The largest percentage of husbands was working husbands (88%) and those who were unemployed were (12%), (Table 1).

1.9 Duration of marriage :
The largest percentage of women's marriage duration was between 6-15 years (56%); this was followed by 16% of the women had duration of marriage less than or equal to 5 years, (Table 1).

The distribution of women according to their fertility status :
The number of pregnancies, age of last child, number of living children, number of dead children, number of still births, number of abortions and sex of live offspring, (Table 2).

Most of the women in the sample had 3-4 pregnancies (31.3%) and the minority of them had 1-2 pregnancies (15.3%), 10.8% of the attendants had the age of their last child less than 1 year, 40.3% of them had 3-4 living children. The majority of attendants had no dead children (82.5%) and no still birth (92.5%) and no abortions (61.8%), (Table 2 - page 31).

The distribution of women according to the gender of offspring (males & females) :
Among 176 women 89.8% of them had 1-4 male children and 82.4% of them had 1-4 female offspring, (Table 3 - page 32).

The distribution of women according to the previous contraceptive methods choice either modern (OCPs, IUD, injectable and condom) or traditional methods (coitus interruptus, safe period and lactational amenorrhoea) :
Most of the women in the study had previous old methods choice of IUDs (39%); also 26.5% of them had previous choice with injectables as modern methods, 15.8% of them previously chose coitus interruptus as traditional methods, (Table 4 - page 32).

The distribution of women according to the person who mostly participates in her current method choice :
The largest percentage of women in the sample (31.8%) chose the current FP methods with the aid of the doctors but still their own personal experience affects their choice as 29.3% chose their methods without other help, (Table 5 - page 32).

The distribution of women according to their current family planning method use and the duration of its use :
The largest percentage of women use OCPs (65.3%) and the least current method use is condom (4.3%) and the largest number of the women used the current method for less than one year (56.8%) and 35% of the women used the current method for 1-5 years, (Table 6).

The association of the current family planning method choice with certain demographic and fertility related variables :
The choice of OCPs is associated significantly with marriage duration < 15 years ($P<0.05$) age of last child

Table 1 : Distribution of the study group by certain demographic variables (PART 1)

Variable	N = 400	%
Current Wives' age		
≤ 20 years	9	2.2
21-25 years	48	12
26-30 years	93	23.2
31-35 years	105	26.3
36-40 years	97	24.3
≥ 41	48	12
Wives' education		
Illiterate	19	4.7
Primary	224	56
Intermediate	89	22.2
Secondary	41	10.3
College	27	6.8
Wives' marriage age		
< 15 years	30	7.5
15-19 years	162	40.5
20-24 years	133	33.3
25-29 years	56	14
30-34 years	13	3.2
35-39 years	5	1.2
≥ 40	1	0.3
Wives' occupation		
Housewife	377	94.2
Working	23	5.8
Current Husbands' age		
≤ 20 years	1	0.3
21-25 years	15	3.7
26-30 years	46	11.5
31-35 years	90	22.5
36-40 years	97	24.3
≥ 41	151	37.7
Husbands' education		

Table 1 : Distribution of the study group by certain demographic variables (PART 2)

Husbands' marriage age		
< 15 years	3	0.8
15-19 years	38	9.5
20-24 years	137	34.2
25-29 years	138	34.5
30-34 years	62	15.5
35-39 years	13	3.2
≥ 40	9	2.3
Husbands' occupation		
Unemployed	48	12
Employed	352	88
Duration of marriage		
≤ 5 years	64	16
6-10 years	104	26
11-15 years	120	30
16-20 years	58	14.5
> 20 years	54	13.5

(P<0.05) and number of living children ≥ 4 children (P<0.05),while the choice of injectable is associated significantly with husbands' marriage age < 25 years old (P<0.05). The choice of IUDs is significantly associated with many determinants : wife unemployed (P<0.05), age of last children > 2 years old (P<0.05) and absence of stillbirths (P<0.05). While condom choice in this study is significantly associated only with absence of female offspring (P<0.05), (Table 7).

The distribution of women according to the reasons for current family planning methods choice :
The main reason for the current family planning choice of the women is that it is a harmless method (61.3%). This is followed by the fear of complications (15.8%) by the women then by previous use of the current family planning method and was suitable (14.8%) and the least reason was about its price and its availability (0.3%), (Table 8).

Distribution of women according to discomfort of the family planning methods used previously :
The method with a high percentage of discomfort was injectable (69.1%) then in equal percentages are IUDs and condoms (65.1%) and the traditional method which is associated with a high level of discomfort is coitus interruptus (74.6%), (Table 9).

Discussion

This study found the majority of the attendants to the family planning clinics were between 31 to 40 years old (50.6%). This finding agrees with the finding of a study in Nairobi which showed the highest percentage of attendants of the sample were aged 30-39 years old [7], and the finding of this study disagrees with the finding in Jordan which found that 50% of women were aged between 20-40 years old with only 5-6% below 20 years old of age and 25% aged above 40 years old. [8]

Also the finding of a study in Sweden showed a large percentage of attendants aged over 40 years old.[9] The study found that women still receive less education than men at secondary and post-secondary level (10.3% vs. 16.5%) for secondary and (6.8% vs. 14.8%) for post-secondary and these findings agree with the findings in Baghdad. [10]

The study showed also unemployment in women was very high, 94.3% of the women of the sample were unemployed and only 5.8% were employed and these findings disagree with a study in Baghdad which showed that 27.7% of urban women were employed. [11]

It was found that 12% of husbands of the attendants were without any kind of work. This is may be due to loss of their jobs which was done by the occupation forces of Iraq. This finding disagrees with a study in Baghdad in

Variable	N = 400	%
Number of pregnancies		
1-2	61	15.3
3-4	125	31.2
5-6	110	27.5
≥ 7	104	26
Age of last baby		
< 1 year	43	10.8
1-2	177	44.2
3-4	84	21
5-6	41	10.2
≥ 7	55	13.8
Number of alive children		
0	1	0.3
1-2	95	23.7
3-4	162	40.5
5-6	91	22.8
≥ 7	51	12.7
Number of dead children		
0	330	82.5
1	53	13.2
2	13	3.2
3	2	0.5
4	1	0.3
≥ 5	1	0.3
Number of stillbirths		
0	370	92.5
1	26	6.5
2	2	0.5
3	0	0
≥ 4	2	0.5
Number of abortions		
0	247	61.8
1	82	20.5
2	38	9.5
3	17	4.2
4	10	2.5
5	4	1
≥ 6	2	0.5

Table 2 : Distribution of the study group by number of pregnancies. Age of last delivery, number of alive children , number of dead children , number of stillbirth and number of abortions (N=400)

Table 3 : Distribution of the mothers according to the sex of the offspring (n=176)

Variable	N = 176	%
Number of male offspring		
0	13	7.4
1-2	102	58
3-4	56	31.8
5-6	5	2.8
≥ 7	0	0
Number of female offspring		
0	22	12.5
1-2	98	55.7
3-4	47	26.7
5-6	7	4
≥ 7	2	1.1

(n=176) after modification of the questionnaire

Table 4 : Distribution of the women by the previous methods choice (N=400)

Previous modern contraceptive method choice				
Method	Number of users	%	Number of non users	%
OCPs	97	24.2	303	75.8
IUDs	156	39	244	61
Injectables	106	26.5	294	73.5
Condoms	49	12.3	351	87.8
Previous traditional method choice				
Method	Number of users	%	Number of non users	%
Coitus interruptus	63	15.8	377	84.2
Safe period	16	4	384	96
Lactational amenorrhoea	21	5.2	379	94.8

Table 5 : Distribution of women according to the person or source mostly affected in their current family planning method choice

Variable	N = 400	%
Participates in women's current family planning method choice		
Husband	63	15.7
Doctor	127	31.8
Relatives	57	14.3
Friends, neighbours	36	9
Personal experience	117	29.2
Mass media	0	0
Nurses	0	0

Table 6 : Distribution of women according to the current family planning method use and its duration of use

Variable	N = 400	%
Current family planning method choice		
OCPs	261	65.2
IUDs	79	19.7
Injectable	43	10.8
Condoma=s	17	4.3
Duration of current family planning method use		
< 1 year	227	56.7
1-5 years	140	35
> 5 years	33	8.3

which all husbands of urban women were employed or self employed. [11]

The study showed that 56% of the attendants in the sample had duration of marriage between 6-15 years. This disagrees with a study in Baghdad which showed 61.7% of the urban women in Baghdad had less than 9 years of marriage. [11]

More than half of the women attending FP clinics had 3-6 children (63.3%). While in a study done in Baghdad found 75.2% of the women had up to 4 children. [10]

The study showed that 20.5% of the women had one abortion and 13.3% of them had one dead baby. This finding mildly differs from the study in Baghdad which showed 21.3% of the urban women had one abortion and 3% of them had one dead baby. [11]

The study showed that 7.4% of the attendants were without male offspring and 12.5% of them were without female offspring. This disagrees with a study in Baghdad which found that 12% of the attendants were without male offspring and 16% of them without female offspring. [10]

The study showed that OCPs are the most common modern type of contraception which is used currently (65.3%) and the least type of contraception which is used currently is condom (4.3%). This finding disagrees with a study in Iraq which found that condom was the commonest contraceptive method used by the attendants (55%) and IUDs the least used method(0.01%),[12] and the finding of this study agrees with a study in Baghdad which found that 70% of the attendants chose OCPs and the smallest percentage of them chose condoms (3%). [10]

The determinants of current FP methods choice in this study were : duration of marriage, age of husbands, age of last child, number of living children, husband's marriage age, wife's occupation, number of stillbirths and the number of female offspring. This finding agrees with findings of the study in Zigon (Myanmar) which showed the number of living children and the age of children were effective factors on women's choice[13], while this result disagrees with the findings of a study in Turkey which showed that education of both spouses and mainly the education of wives were associated with women's current FP method choice. [14]

The study showed that the choice of OCPs was determined by marriage duration < 15 years, age of last child > 2 years old and number of living children > 4 children. This finding disagrees with a study in Great Britain and Germany which found a significant association between OCP choice and educational level of mothers (as low educational level is associated with low OCPs use and choice). [15]

The study found that choice of injectable method is determined by husband's marriage age < 25 years as decrease use of injectable with increase in husband marriage age. This finding disagrees with a study in Nigeria which found that parity is the main determinants of injectable choice.[16]

The study found that the main determinants of IUDs choice is husband age > 35 years old, wife unemployment, absence of stillbirths and age of last child > 2 years old. This finding disagrees with the finding of the study in Norway which found the main determinant of IUD choice was the age of the mother and number of children. [17]

The study found the main determinant of choice of condom is absence of female offspring and this finding disagrees with the finding of study in Nigeria which found that the main determinant of choice of condom was the age of wives). [16]

The study showed that doctor in 31.8% was the main person who participates in the women's current choice of FP method. This agrees with a study in Panama. [18]

Table 7: Association of current Family Planning method choice with certain demographic and fertility related variables (N-400)
(PART 1)

Table 7: Association of current Family Planning method choice with certain demographic and fertility related variables(N=400)

Variable	OCPs				Injectable				IUDs				Condom				Total	
	Users		Non users		Users		Non users		Users		Non users		Users		Non users			
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Wife age																		
< 35 years	158	60.5	72	51.8	44	55.7	186	57.9	19	44.2	211	59.1	9	52.9	221	57.7	230	57.5
≥35 years	103	39.5	67	48.2	35	44.5	135	42.1	24	55.8	146	409	8	47.1	162	42.3	170	42.5
	χ^2 =2.8 Df=1 0.5>P>0.1				χ^2 =0.1 Df=1 P>0.5				χ^2 =3.5 Df= 1 0.1>P>0.05				χ^2 =0.2 Df=1 0.5>P>0.1				400	100
Wife education level																		
< Secondary	151	57.9	92	66.2	55	69.6	188	58.6	25	58.1	218	61.1	12	70.6	231	60.3	243	60.8
≥ Secondary	110	421	47	33.8	24	30.4	133	41.4	18	41.9	139	38.9	5	29.4	152	39.7	157	39.2
	χ^2 =2.6 Df= 1 0.5>P>0.1				χ^2 =3.2 Df= 1 0.1>P>0.05				χ^2 =0.1 Df= 1 P>0.5				χ^2 =0.7 Df= 1 0.5>P>0.1				400	100
Wife occupation																		
Housewife	247	94.6	130	93.5	77	97.5	300	93.5	37	86	340	95.2	16	94.1	361	94.3	377	94.2
Work	14	5.4	9	6.5	2	2.1	21	6.5	6	14	17	4.8	1	5.9	22	5.7	23	58
	χ^2 =0.2 Df= 1 P>0.5				χ^2 =1.9 Df= 1 0.5>P>0.1				χ^2 =6 Df= 1 P<0.05				χ^2 =0.006 Df= 1 P>0.5				400	100
Husbands age																		
< 35 years	95	36.4	42	30.2	28	35.4	109	34	7	16.3	130	36.4	7	41.2	130	33.9	137	34.2
≥ 35 years	166	63.6	97	69.8	51	64.6	212	66	36	83.7	227	63.6	10	58.5	253	66.1	263	65.8
	χ^2 =1.5 Df= 1 0.5>P>0.1				χ^2 =0.1 Df= 1 P>0.5				χ^2 =6.9 Df= 1 P<0.05				χ^2 =0.4 Df= 1 P>0.5				400	100
Husband education level																		
< Secondary	100	38.3	63	45.3	33	41.8	130	40.5	21	48.8	142	39.8	9	82.9	154	40.2	163	40.8
≥ Secondary	161	61.7	76	54.7	46	58.2	191	59.5	22	51.2	215	60.2	8	47.1	229	59.8	237	59.2
	χ^2 =1.8 Df=1 0.5>P>0.1				χ^2 =0.04 Df= 1 P>0.5				χ^2 =1.3 Df= 1 0.5>P>0.1				χ^2 =1.1 Df= 1 0.5>P>0.1				400	100
Husband occupation																		
Employed	231	88.5	121	81.1	66	83.5	286	89.1	40	93.1	312	87.4	15	88.2	337	88	352	12
Unemployed	30	11.5	18	12.9	13	16.4	35	10.9	3	7	45	12.6	2	11.8	46	12	48	88

Table 7: Association of current Family Planning method choice with certain demographic and fertility related variables (N-400)
(PART 2)

	χ^2=0.2 Df= 1 P>0.5				χ^2=1.9 Df= 1 0.5>P>0.1				χ^2=1.2 Df= 1 0.5> P> 0.1				χ^2=0.001 Df= 1 P> 0.5				400	100
Wife marriage age																		
< 25 years	211	80.8	114	82	63	79.7	262	81.6	35	81.4	290	81.2	16	94.1	309	80.7	325	81.3
≥ 25 years	50	19.2	25	18	16	20.3	59	18.4	8	18.6	67	18.8	1	5.9	74	19.3	75	18.8
	χ^2=0.1 Df= 1 P>0.5				χ^2=0.1 Df= 1 P>0.5				χ^2=0.001 Df= 1 P>0.5				χ^2=1.9 Df= 1 0.5>P>0.1				400	100
Husband marriage age																		
< 25 years	110	42.1	68	48.9	43	54.4	135	42.1	15	34.9	163	45.7	10	58.8	168	43.9	178	44.5
≥ 25 years	151	57.9	71	51.1	36	45.6	186	57.9	28	65.1	194	54.3	7	41.2	215	56.1	222	55.5
	χ^2=1.7 Df= 1 0.5>P>0.1				χ^2=3.9 Df= 1 P<0.05				χ^2=1.8 Df= 1 0.5> P> 0.1				χ^2=1.5 Df= 1 0.5>P>0.1				400	100
Marriage duration																		
< 15 years	178	68.2	81	58.3	46	58.2	213	66.4	25	58.2	23	65.5	10	58.8	249	65	259	64.8
≥ 15 years	83	31.8	58	41.7	33	41.8	108	33.6	18	41.8	123	34.5	7	41.2	134	35	141	35.3
	χ^2=3.9 Df= 1 P<0.05				χ^2 =1.8 Df= 1 0.5> P >0.1				χ^2 =0.9 Df= 1 0.5> P >0.1				χ^2=0.3 Df= 1 P>0.5				400	100
Number of pregnancies																		
< 4 pregnancies	91	34.9	36	25.9	19	24.1	108	33.6	12	35.3	115	32.2	5	29.4	122	31.9	127	31.8
≥ 4 pregnancies	170	65.1	103	74.1	60	75.9	213	33.6	31	72.1	242	67.8	12	70.6	261	68.1	273	68.3
	χ^2 =3.4 Df= 1 0.1>P>0.05				χ^2 =2.7 Df= 1 0.1> P >0.05				χ^2=0.3 Df= 1 P>0.5				χ^2=0.04 Df= 1 P>0.5				400	100
Age of last child																		
< 2 years	83	31.8	58	42.7	33	41.8	108	33.6	21	48.8	120	33.6	4	23.5	13.7	35.8	141	35.3
≥ 2 years	178	68.2	81	58.3	46	58.2	213	66.4	22	51.2	237	66.4	13	79.5	246	64.2	259	64.8
	χ^2=3.9 Df= 1 P<0.05				χ^2 =1.8 Df= 1 0.5> P >0.1				χ^2=3.9 Df= 1 P< 0.05				χ^2 =1.04 Df= 1 0.5>P>0.1				400	100
Number of live children																		
< 4 children	122	46.7	45	32.4	26	32.9	141	43.9	12	27.9	155	43.4	7	41.2	160	41.8	167	41.8
≥4 children	139	53.3	94	67.6	53	67.1	180	56.1	31	72.1	202	56.6	10	58.5	223	58.2	233	58.3

Table 7: Association of current Family Planning method choice with certain demographic and fertility related variables (N-400)
(PART 3)

	χ^2 =7.7 Df= 1 P<0.05				χ^2 =3.2 Df= 1 0.1>P>0.05				χ^2 =3.8 Df= 1 0.1>P>0.05				χ^2 =0.002 Df= 1 P>0.5				400	100
Number of died children																		
No died	221	84.7	109	78.4	61	77.2	269	83.8	34	79.4	296	82.9	14	82.4	316	86.8	370	92.5
1 or more	40	15.3	30	21.6	18	22.8	52	16.2	9	21	61	17.1	3	17.6	50	0.14	30	7.5
	χ^2 =2.5 Df= 1 0.5> P>0.1				χ^2 =1.9 Df= 1 0.5>P>0.1				χ^2 =0.4 Df= 1 P>0.5				=0.2 Df= 1 P>0.5				400	100
Number of stillbirths																		
No stillbirth	241	92.3	129	92.8	76	96.2	294	61.6	36	83.7	334	93.6	17	100	353	92.2	370	92.5
1 or more stillbirths	20	7.7	10	7.2	3	3.8	27	8.4	7	16.3	23	6.4	0	0	30	7.8	30	7.5
	=0.01Df= 1 P>0.5				=1.9 Df= 1 0.5>P>0.1				=5.4 Df= 1 P<0.05				=0.1 Df= 1 P>0.5				400	100
Number of abortions																		
No abortion	160	21.5	87	62.6	50	63.3	197	61.4	29	67.4	218	61.1	8	47.1	239	62.4	247	61.8
1 or more abortions	101	38.7	52	37.4	29	36.6	134	38.6	14	32.6	139	30.9	9	52.9	144	37.6	153	30.2
	= 0.1 Df= 1 P>0.5				=0.1 Df= 1 P>0.5				=0.7 Df= 1 0.5>P>0.1				=1.6 Df= 1 0.5>P>0.1				400	100
Number of male offspring																		
No male offspring	11	8.9	2	3.8	1	2.6	12	8.8	1	7.7	12	7.4	0	0	13	7.4	13	7.4
1 or more male offspring	112	91.1	51	1	38	97.4	125	91.5	12	92.3	151	92.6	1	100	162	92.6	163	92.7
	=1.4 Df= 1 0.5> P>0.1				=1.7 Df= 1 0.5>P>0.1				=0.02 Df= 1 P>0.5				=0.4 Df= 1 P>0.5				400	100
Number of female offspring																		
No female offspring	18	14.6	4	7.5	2	5.1	20	14.6	1	7.7	21	12.9	1	100	21	12	22	12.5
1 or more female offspring	105	85.4	49	92.5	37	94.8	117	85.4	12	92.3	142	87.1	0	0	154	88	154	87.5
	=1.7 Df= 1 0.5> P>0.1				=2.5 Df= 1 0.5>P>0.1				=0.7 Df= 1 0.5>P>0.1				=6.7 Df= 1 P<0.05				400	100

Table 8 : Distribution of mothers by the reason of choice of current family planning methods (n=400)

Variable	N = 400	%
Reason for current family planning method choice		
It is a harmless method	245	61.2
It was previously used and was suitable	59	14.7
It is the most effective in preventing pregnancy	31	7.7
Because of fear of complications	63	15.8
It is the most available	1	0.3
It is a cheap method	1	0.3

Table 9 : Distribution of women`s according to discomfort of family planning methods used previously

Methods	Users	Users with discomfort	%
OCPs	358	95	26.5
Injectables	149	103	69.1
IUDs	235	153	65.1
Condoms	66	43	65.1
Coitus interruptus	63	47	74.6
Safe period	16	2	12.5
Lactation amenorhoea	21	0	0

There was no role of mass media in women's choice. This disagrees with a study in Nigeria which showed that mass media was an important source of information for most women.[16]

The main reason of using the current FP methods as shown in this study is the harmlessness of the method and 77.1% of women complaining from the adverse effect of contraceptive methods which indicates that till now no method is satisfactory with no or very minimal adverse harmful effects.
The price and the availability of contraceptive methods were not important reasons as only 1% of women's choice was because the method was cheap and 1% of their choice because of the availability of the method.

The modern method with high percentage of discomfort is injectable (69.1%) then the condom (65.1%) and IUDs (65.1%) and the least one is OCPs (26.5%) while coitus interruptus was the traditional method with the highest percentage of discomfort (74.6%).

Conclusions and Recommendations

Conclusions :
1. The preference of oral contraceptive pills as FP method was higher (65.3%) than the preferences of other modern FP methods.
2. The factors that determine the choice of current FP methods in the sample were : duration of marriage < 15 years, age of husband ≥ 35 years old, age of last child ≥ 2 years old, husband's marriage age < 25 years, number of living children ≥4, unemployment of wives, absence of stillbirths and the absence of female offspring.
3. There was no role of mass media in women's current choice of FP method.
4. The main person who affects women's current choice of FP method was doctor.

Recommendations :
1. There is a need to increase awareness of the people regarding all aspects of family planning. This is achievable opportunistically by discussion and the choice of contraceptive methods must be the result of dialogue in which the totality of the individual is assessed and emphasis should be placed on developing and distribution of contraceptives that are devoid of side effects, cheap, easily available, effective and easily reversible.
2. It is recommended to change the knowledge in a short time through a wider use of mass media education and it is necessary to prepare family doctors to offer FP services to their patients and FP counsellors should help spouses make their choice and decisions freely and based on relevant information to ensure continuation.
3. The need for male sexual responsibility and the need for communication between spouses and husbands should be involved during FP counselling sessions.

4. A comprehensive and rigorous FP information program is crucial to address existing constraints on the choosing of appropriate contraceptive methods and continuous refresher training programs should be offered to counsellors.
5. There is a need for continuing collaboration between researcher and FP associations, Ministry of Health and policy makers to encourage the import of contraceptive methods that are safer, more effective and more widely acceptable than those available.

References

1- World Health Organization. Report of the International Conference of PHC (Alma Ata, USSR, Geneva Health for all series). 16 August-12 September,1978; No. 110.
2- World Health Organization. Report of the international conference on population development, 1994.
3- World Health Organization. Health benefits of family planning WHO\FHE\FPP .1995; 95:11.
4- International Planned Parenthood Federation (IPPF). Counseling and contraceptives choice family planning manual for health professionals. 1997 : 3.
5- World Health Organization. Providing an appropriate contraceptive method choice. WHO\MCH\FPP. 1993; 93:2-3.
6- Daniel WW. Biostatistics : a foundation for analysis in the health sciences. Second edition, John Wiley and sons, New York. Chichester, Brisbane, Toronto, Singapore. 1983: p 495.
7- Rogo KO. Family planning through private practitioners : Kenyan combined contraceptive pills acceptors. Int J Gynecol Obstet. 1990; 31 : 47-55.
8- Wesileh I. Petro-Nustus. Wives view of their husbands role in FP: some indication from Jordan fertility and family H survey. Dirast, Medical and Biological Science.1997; Volume 24, No.2,187-200.
9- Odlind, V; Milsom, I; Andersson, K et al. Fertility and contraception in women after 40, Lakrtidningen, Mar I, 2000 ; 97(9):956-8:961-2,964.
10- Alwafi Z.G. Knowledge attitudes and practices among women attending family planning clinics in Baghdad City. A dissertation submitted to the scientific council of community and family medicine in partial fulfillment of the degree of fellowship of Iraqi Commission for medical specialization. Family medicine. 2002.
11- Al-Tawil N.G .Knowledge, attitudes and practice regarding family planning among two groups of women in Baghdad province. A dissertation submitted to the scientific council of community and family medicine in partial fulfillment of the degree of fellowship of Iraqi Commission for medical specialization. Community medicine. 1997.
12- Iraqi family planning association Abstract of statistics, 1st half of 2004.
13- Panitchpakdi P; Podhipak A; Sein UK et al .Family planning; knowledge, attitude and practice survey in Zigone. Myanmar South East Asia-J-Trop-Med-Public-Health.1993; 24(4):636-46.
14- Koc,-I. Determinants of contraceptive use and method choice in Turkey. J Biosoc Sci, Jul- 2000; 32(3) : 329-42.
15- Oddens BJ; Lolkema A. A scenario study of oral contraceptive use in Japan-Towards fewer unintended pregnancies. Contraception Jul,1998 ; 58(1):13-9.
16- Adinma JI; Agbai AO; Nwosu BO. Contraceptive choices among Nigerian women attending an antenatal clinic. Adv Contracept, Jun,1998; 14(2) : 131-45.
17- Skjeldestad FE. Choice of contraceptive modality by women in Norway. Acta- Obstet- Gynecol-Scand Jan,1994; 73(1): 48-52.
18- Austin KL, Grajales B, De-Leon AO et al. The history of family planning among women who opt for surgical sterilization in the social security fund of Panama, May,1994; 19(2) : 84-91

Scabies in children in sector Gaza

Thaer Almomani

Correspondence:
Thaer Almomani MD, JBP
Department of Pediatrics, Royal Medical Services.
Irbid, Jordan
Tel: ++962 0777260153
Email: thaer_mom@yahoo.com

Abstract

Objectives: To present a profile of scabies in children in sector Gaza.

Methods: All patients who were seen in the outpatient clinic in Jordanian hospital in Gaza between 25/11/2010 and 24/01/2011 and who presented with itching, were examined for scabies. Patients were divided into three age groups: group I: 0-4 years, group II: 4-8 years and group III: 8-14 years.

Results: A total of 5430 children were seen in outpatient clinic for various diseases and conditions during the study period. 145 cases of scabies were reported with 98 males and 47 females. Scabies was higher in age group II: age 4-8 years, followed by group III; 8-14 years. The incidence of scabies among children seen in the clinic was 0.02% and was higher in males. The commonest manifestation was night itching followed by skin marks.

Conclusion: Scabies is a common disease among children in Gaza. Major contributing factors to this disease are: crowding, poor hygiene, scarce water supplies and low socio-economic class.

Key words: scabies, children, Gaza

Introduction

Scabies is an infectious skin disease caused by S. scabiei var. hominis. According to the WHO about 300 million persons per year develop scabies worldwide.(1) Scabies is a common dermatological problem managed by both pediatricians and dermatologists. It manifests itself in various forms in children and differs from that in adults in many ways.

The primary contributing factors in contracting scabies seem to be poverty and overcrowded living conditions. The incidence rate of scabies is 28/100,000 inhabitants. The incidence is higher in the elderly (51/100, 000 in persons aged >75 years) and a higher incidence was also found in immigrants (88/100,000).(2)

Scabies is highly contagious and is spread from person to person by direct skin contact. Transfer from clothes and bedding occurs rarely and only if contaminated by infectious people immediately beforehand.(3) Infestation occurs when pregnant female mites burrow into the skin and lay eggs. After two or three days the larvae emerge and dig new burrows. They mature, mate, and repeat this cycle every two weeks. The main symptoms of scabies are caused by the host immune reaction to burrowed mites and their products.(4) Symptoms appear within two to six weeks of the initial infestation, but reinfestation can provoke symptoms within 48 hours.

The most common presenting lesions are papules, vesicles, pustules, and nodules. The pathognomonic sign is the burrow-a short, wavy, grey line that is often missed if the skin is eczematised, excoriated, or impetiginised. (5)

The purpose of this study is to present data on scabies in children seen at the Jordanian field hospital in Gaza strip.

Methods

All children attending the pediatric outpatient clinic at the Jordanian field hospital in Gaza between 25/11/2010 and 24/01/2011,with itching, were included in this prospective study. Patients were divided into three age groups. Group I: age 0-4 years. Group II: age 4-8 years and group III: age 8-14 years.

Patients with high clinical suspicion and the presence of clinical skin symptoms were included. Confirmation of the diagnosis was based on the positive microscopical examination.

Clinical symptoms were defined as generalized skin itching increased at night associated with scratching, excoriated papules, vesicles and burrows. Patients presenting with localized skin itching or itching increased at day and night, or with no specific time of exacerbation or diagnosed with other diseases were excluded. The diagnosis was based on the patient's history with physical and laboratory findings.

This study used the clinical examination (by the presence of burrows or erythematous papular, vesicular, pustular or bullous lesions associated with itching and a positive family history) followed by microscopic test to confirm the diagnosis. The symptoms of scabies include intense itching (especially at night) with irritation of involved skin with redness and blisters formation. The skin irritation is more likely to be seen in the areas between the fingers and toes; around the wrists or navel, in the folds of the elbow, armpit, belt-line, abdomen, groin and the genital area. The head, neck, palms, and soles of the feet are usually spared, except in babies.

The mite infestation was confirmed using scraping test. The sampling was carried out from the children suspected to have scabies infestation and carried out on the patients with pruritus, nodules, and papular rash. The lesions are gently scraped to remove the topmost skin cells and particles which were preserved in oily material then were mounted on the microscope slide. The skin particle samples including adult mites were referred as positive samples.

Results

From a total of 5,430 children who were examined and treated for different diseases, one hundred and seventy five patients (3.2%) had itching in addition to other symptoms; 30 were excluded because they were diagnosed to have other diseases that cause itching (chicken pox and measles) and the remaining were diagnosed to have scabies. Distribution by age groups is illustrated in Table 1.

From the total 5,430; 500 patients presented with different skin manifestations, 120 patients presented with napkin dermatitis, 110 patients with skin impetigo, 80 patients with viral exanthem due to several viral infections, 20 patients with chicken pox, 10 patients with insect bite reaction (papular urticaria), 10 patients with infected eczema and 5 patients presented with a picture of german measles and rubeolla and 145 patients were diagnosed by clinical examination and positive microscopic test as scabies, Table 2.

All scabies-infested patients presented with the main complaint of itching; additional complaints were irritability, skin infections, scratch marks on skins. One hundred (69%) patients complained of generalized itching especially at night and 45 (31%) of localized itching, Table 3.

Commonest site for the scabies skin lesion was genitalia in 53 (36.5%) patients, followed by periumbilicus 39 (26.8%) patients, trunk 23 (15.8%) patients, interdigital webs 20 (13.7%) patients and axilla 10 (6.8%) patients, Table 4.

Discussion

Scabies is a contagious disease caused by a mite. The condition of 'scabies' is caused by an allergic reaction to the fecal material of the mite Sarcoptes scabei var hominus. It is an exceedingly common disease of world -wide distribution. It is endemic in many developing countries.

Although scabies is more common where overcrowded conditions prevail, it can affect any individual irrespective of social status, personal hygiene, profession, gender, age or ethnic origin. It is primarily characterised by itching, vesiculation and pruritus. Signs of reddish, slightly elevated tracts may also occur. Miniature papules, vesiculations, pustules and excoriations soon appear. Scratching of these areas may lead to secondary bacterial infection. A recent review of the prevalence of childhood skin diseases in developing tropical and subtropical countries concluded that the prevalence of scabies is in the range of 1-2%. (6)

Lice, Ringworm and Swimmer's itch, Measles and Chickenpox, to mention a few can present with itching. (7) These diseases must be differentiated from scabies.

Scabies can be both one of the easiest and one of the most difficult conditions to diagnose. Scabies should be suspected in infants or children with generalized pruritus of recent onset and characteristic eruption. The site, severity, duration and timing of the itch are all useful in the diagnosis. Nocturnal itch is very characteristic of scabies. A history of itching in other members of the family should be sought and may give a clue to the diagnosis. The classical eruption of scabies presents as pruritic papules, vesicles, pustules and linear burrows.(8) In our study the most frequent symptom was night itching, followed by scratch marks and burrows. Less common were secondary skin infection and day itching.

In infants and young children, scabies often affects the face, head, neck, scalp, palms, and soles. Widespread eczematised erythema is common, particularly on the trunk, and is sometimes more troublesome than are

Table 1: Demographics

Gender/age group	0-4	4-8	8-14	total
Male	8	63	27	98
Female	6	27	14	47
Total	14	90	41	145

Table 2: Common skin lesions seen in the clinic

Clinical manifestation	Number	%
Napkin dermatitis	120	24
Impetigo (urticaria)	110	22
Viral exanthema	80	16
Chicken pox	20	4
Insect bite	10	2
Infected eczema	10	2
Measles	5	1
Scabies	145	29
Total	500	100%

Table 3: Clinical manifestations

Clinical manifestation	male	female	0-4	4-8	8-14
day Itching	30	23	5	55	19
night Itching	93	45	11	90	41
irritability	57	29	14	75	17
skin infections	10	7	5	13	9
scratch marks	93	37	11	78	37
burrows	85	35	9	73	33
vesicles	61	29	6	59	26

Table 4: Distribution of skin lesion

Site of skin lesion	Number of lesion (%)
Genitalia	53(36.5%)
Periumbilicus	39(26.8%)
Trunk	23(15.8%)
Interdigital webs	20(13.7%)
Axillae	10(6.8%)
Total	145(100%)

lesions at typical sites. Very young babies do not scratch and may just seem miserable or feed poorly.(9) Genitalia and periumbilicus were the commonest site of itching, although other areas were affected (trunk, axilla and interdigital webs) in the present study. Also the study showed that the most common affected age group is between 4-8 years with male predominance.

The factors generally thought to explain the high prevalence and incidence of common skin infections in developing countries are poverty related and include: a low level of hygiene, including difficulties accessing water; climatic factors; and overcrowding living conditions.(10, 11)

Scabies in our study is common and frequent because of poverty, overcrowded living conditions, low socioeconomic condition and poor hygiene. But it is less common than in other countries and communities. In remote Aboriginal communities in Australia's

Northern Territory, scabies is endemic, with up to 50% of children and 25% of adults infested at some times. (12) Prevalence of scabies in African children can be as high as 40-80%,(13) although a figure of 4.7% has been reported in Nigerian school children. (14)

Conclusion

Scabies is a common health problem among children in Gaza; the disease can be reduced by improving socioeconomic, hygienic conditions and by implementing a proper system of social education, as well as by promoting a more efficient health service. Work needs to continue on addressing these all-important factors to bring about long-term change.

References

1. Water related diseases. http://www.who.int/water_sanitation_health/diseases/scabies/en/ .
2. Lapeere H, Naeyaert J, De Weert J, De Maeseneer, Broche L. Incidence of scabies in Belgium. Epidemiol Infect. 2008; 136(3): 395-398.
3. Walker GJ, Johnstone PW. Interventions for treating scabies. Cochrane Database Syst Rev 2000;(3): CD000320.
4. McCarthy JS, Kemp DJ, Walton SF, Currie BJ. Scabies: more than just an irritation. Postgrad Med J 2004; 80: 382-7.
5. Michael J, Graham A. More common skin infections in children. BMJ. 2005 May 21; 330(7501): 1194-1198.
6. World Health Organization. Epidemiology and management of common skin diseases in children in developing countries. Geneva: World Health Organization; 2005. p. 54.
7. A Quick Guide to Common Childhood Diseases. http://www.hlth.gov.bc.ca/prevent/phn.html
8. Estes SA. Diagnosis and management of scabies. Med Clin North Am 1982; 66: 955-63.
9. Meinking TI, Taplin D. Infestations In: Schachner LA, Hansen RE, editors. Pediatric Dermatology. 2nd edition. Churchill Livingstone. Edinburgh. 1995; 1347-1392.
10. World Health Organization: Epidemiology and Management of Common Skin Diseases in Developing Countries. Geneva, World Health Organization; 2005.
11. Haymann DL: Control of Communicable Diseases Control Manual. American Washington, Public Health Association Press; 2004.
12. Currie BJ, Carapetis JR. Skin infections and infestations in Aboriginal communities in northern Australia. Australas J Dermatol 2000; 144-5.
13. Kristensen JK. Scabies and Pyoderma in Lilongwe, Malawi. Prevalence and seasonal fluctuation. Int J Dermatol 1991; 30: 699- 702.
14. Ogunbiyi AO, Owoaje E, Ndahi A. Prevalence of skin disorders in school children in Ibadan, Nigeria. Pediatr Dermatol. 2005;22:6-10.

A review on the diverse types of research misconduct

Mohsen Rezaeian

Correspondence:
Professor Mohsen Rezaeian
PhD, Epidemiologist
Social Medicine Department
Occupational Environmental Research Center
Rafsanjan Medical School
Rafsanjan University of Medical Sciences
Rafsanjan-Iran
Tel: 03915234003
Fax: 03915225209
Email: moeygmr2@yahoo.co.uk

Abstract

Research misconduct encompasses a vast array of research misbehaviors, from very serious to less serious. We could name very serious misbehavior as research fraud and less serious types as questionable research practices. The aim of the present article is to overview the diverse types of research misconduct.

Key words: Research misconduct, Research fraud, Questionable research practice

Introduction

Research misconduct encompasses a vast array of behaviors, from very serious research misbehavior such as data fabrication to the less serious aspects such as authorship disputes. It would be possible to categorize very serious misbehaviors as research fraud and less serious types as questionable research practices.

From one hand, evidence suggests that different research misconduct, either research fraud or questionable research practices might have substantial damaging impact on the advancement of human knowledge. On the other hand, some novice and young researchers might innocently commit such misconduct. Therefore, the aim of the present article is to overview diverse types of research misconduct.

Data fabrication and data falsification

Data fabrication means inventing fake data whilst data falsification implies distorting existing data to obtain some specific results. Both of these research misbehaviors are among the most serious research misconduct i.e. research fraud.

Plagiarism and self-plagiarism

Plagiarism implies stealing other people's ideas and self-plagiarism means stealing one's own idea both without providing proper attribution. Plagiarism and self-plagiarism could start from one sentence and might extend to one paragraph and even a full article. Plagiarism especially in larger text copying is categorized as research fraud.

Duplicate publication, redundant publication and salami publication

Duplicate publication indicates publishing two identical articles whilst redundant publication involves publication of two rather similar articles. Salami publication also denotes publishing two or more articles from a single study. It should be noted that only large epidemiological studies might permit publication of more than one article. Whilst duplicate publication can be categorized as a serious research misconduct, redundant and salami publication might be considered as less serious forms.

Failing to gain approval for the research proposal from an ethics committee for research

Failing to gain approval for the research proposal from an ethics committee for research could be regarded as a serious type of research misconduct.

This gets worse when the proposal deals with interventional design in human subjects such as in clinical trials. Therefore, it is highly suggested that any research proposal should receive approval from an ethics committee for research.

Conducting research in humans and/or animals without considering ethical issues

Approval for the research proposal from an ethics committee for research is a necessary but not sufficient step for avoiding research misconduct. In addition, researchers should take into account any relevant ethical approved guidelines when dealing with humans and/or animals subjects. Failing to consider such ethical issues could be regarded as serious types of research misconduct.

Ignoring outliers, ignoring missing data, reporting post-hoc analyses without declaring them

Any wrong doings in the process of data analyses such as ignoring outliers, ignoring missing data, reporting post-hoc analyses without declaring them, could have serious impacts on the results. Therefore, it is necessary that researchers admit and declare any outliers and/or missing data. Furthermore, carrying out any type of post-hoc analyses should be declared in advance by the researchers.

Authorship disputes

Authorship disputes encompass any disagreements between researchers about the names and orders of the authors in a given paper. Unfortunately, evidence suggests that such questionable research practice is rather common in different countries around the world. Therefore, it is up to authors to consider the authorship criteria in order to name in the right order only true authors and avoiding guest or ghost authorships.

Failing to disclose a conflict of interest

Conflict of interest implies that researchers, reviewers and editors have a relationship either financial and/or non-financial to a person, school of thought, organization; etc that might cause unwanted impacts on the process of scientific publication. The most important way to avoid any research misconduct regarding conflict of interest is to disclose any possible conflicts before publishing a paper.

Failure to carry out a thorough literature review before commencing new research

Failure to carry out a thorough literature review before commencing new research is judged to be a questionable research practice. The reason for this is too obvious, since inadequate literature review might lead to flawed or repetitive research.

Conclusion

Data fabrication, data falsification, plagiarism, self-plagiarism, duplicate publication, redundant publication, salami publication, failing to gain approval for the research proposal from an ethics committee for research, conducting research in humans and/or animals without considering ethical issues, ignoring outliers, ignoring missing data, reporting post-hoc analyses without declaring them, authorship disputes, failing to disclose a conflict of interest and failure to carry out a thorough literature review before commencing new research, are different types of research misconduct.

Researchers, especially novices, should try to avoid all types of research misconduct through recognition of these principles. We all should bear in mind that the advance of human civilisation has always been tied up with the advance in knowledge and technology and the global sharing of the same.

Further Reading

Rezaeian M. How to supervise a medical thesis. Middle East J Family Med. 2014; 12(5) :39-41.
Fisher ER, Partin KM. The challenges for scientists in avoiding plagiarism. Account Res. 2014;21(6):353-65.
Rezaeian M. How to prepare a thesis for submission. Middle East J Business. 2014; 9(2) :41-43.
Fierz K, Gennaro S, Dierickx K, Van Achterberg T, Morin KH, De Geest S. Scientific Misconduct: Also an Issue in Nursing Science? J Nurs Scholarsh. 2014 Apr 23. doi: 10.1111/jnu.12082.
Farthing MJ. Research misconduct: a grand global challenge for the 21st Century. J Gastroenterol Hepatol. 2014;29(3):422-7.
Lahey T. The ethics of clinical research in low- and middle-income countries. Handb Clin Neurol. 2013;118:301-13.
Bosch X. Research integrity: Journals should be clear on misconduct. Nature. 2013;497(7447):40.
Gupta A. Fraud and misconduct in clinical research: A concern. Perspect Clin Res. 2013;4(2):144-7
Ana J, Koehlmoos T, Smith R, Yan LL. Research misconduct in low- and middle-income countries. PLoS Med. 2013;10(3):e1001315.
Tanimoto T, Kami M, Shibuya K. Research misconduct and scientific integrity: a call for a global forum. Lancet. 2013;382(9896):940.
Rezaeian M. Some personal thoughts on the advantages and disadvantages of undergraduate students' health research. South Asia Journal of Family Medicine. 2012; 4 :51-53.
Kornfeld DS. Perspective: research misconduct: the search for a remedy. Acad Med. 2012;87(7):877-82.