Middle East Journal of Family Medicine

ISSN 148-4196

APRIL 2008 - Volume 6, Issue 3

From the Editor

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This issue is rich with various paper dealing with important health issues across the spectrum of age. A paper from Kuwait looked at the role of clinical examination and lab. investigations in reaching a reliable diagnosis of appendicitis. The authors reviewed the record of 200 patients who underwent appendicectomy were analyzed retrospectively. The authors concluded that clinical examination is an adequate diagnostic tool in most cases of appendicitis.

Dr Khan H et Afridi AK looked at the demographic variables of the residents of Palosi village near the vicinity of Peshawar. They followed a descriptive observational survey. The findings revealed that the population of Palosi village comprises of adult males and females in their reproductive ages. There is low literacy rate, improper water supply and sanitation facilities. Health care facilities in general and antenatal care to pregnant ladies are not up to the need of the respondents. Immunization coverage is lower because of their social taboos and religious concept regarding utilization of these services.

A paper from Iran looked on emotional intelligence and psychopathology. The authors studied a sample of sample of 182 students (113 girls & 69 boys, aged 19-29 with 21.15 mean & 1.47 SD) from Tabriz university, who selected through multi-level clustering method, were assessed by emotional intelligence scale (MSEIS) and symptom check-list (SCL-90-R). Results showed that emotional intelligence has negative correlation with all pathological symptoms. Also, regression analysis indicated that emotional regulation as a factor of emotional intelligence, can significantly predict symptom's variance. In general, these findings reveal that emotional intelligence and its factors has considerable role in both prevention and treatment of pathological signs and symptoms.

A study from Jordan attempted to evaluate the clinical manifestations of scorpion stings in children and their management in Aqaba region, south of Jordan. A total of 75 children admitted to the paediatric ward during the study period. The authors stated that the severity of the scorpion envenomation was most likely dependent upon the type of offending scorpion, the dose of venom injected by the scorpion and the susceptibility of the individual. We recommend that specific antivenom should be given intravenously in all children who show significant symptoms.

A paper from Nigeria looked at the use of medicinal plants for treating HIV/AIDS opportunistic infections. The author aimed to highlight important herbs used in treating and/or preventing infections including HIV/AIDS opportunistic infections.

Data were gathered through literature review, interviews and observations made during participation in treatment of patients. Ways forward in practice of traditional medicine were emphasized during study.

Dr Akter S , Rahman M, Khan RA et al looked at the effect of Reproductive Knowledge of Mother on Pregnancy Wastage in Rural Rajshahi of Bangladesh.

Analyzing their data by some statistical tools like linear probability models we have found that the reproductive knowledge influences pregnancy wastage of mother. The pregnancy wastage of women in two extreme age groups (below 20 and above 35) is tremendously dodgy where as in other age groups this is relatively benign. Knowledge on healthy reproductive behavior as well as lower acceptance of family planning procedure by contraception substantially reduces the risk of pregnancy wastage; however giving more birth increases this risk.

The Role of Clinical Examination and Laboratory Investigations in Reaching A Reliable Diagnosis of Appendicitis

Dr. Mohammed Ahmed Rashaideh MD., Dr. Khaled Nawayseh MD., Dr. Mohammed Bdoor MD., Dr.Omar Abu-aleish MD.

ABSTRACT

Background: Acute appendicitis is a common surgical problem and making the diagnosis can be difficult. Appendicectomy is the most common surgical procedure performed in general practice. The appendix can also be the site of a variety of neoplasms and unusual inflammatory conditions.

Methods: The hospital databases and records of 200 patients who underwent appendicectomy were analyzed retrospectively. The reports were analyzed for the following parameters: age-related incidence of acute appendicitis, rate of negative appendicectomy, and the incidence of other pathologies encountered.

Results: Age range was 5 to 70 years; 42% of the study group were females, 80% were less than 40 years. Negative appendicectomy rate (total=22.5%) was higher in females (34.5%) than males (13.8%). Right iliac fossa pain was the most common symptom. Localized right iliac fossa tenderness was the most common sign. Radiology was of little benefit apart from CT. Other pathologies included carcinoid (0.5%), adenocarcinoid (0.5%), parasitic infestation (2%).

Conclusions: Clinical examination is an adequate diagnostic tool in most cases of appendicitis. Laboratory results and ultrasound did not significantly alter clinical judgment. There are still a number of unusual histologies found in appendicectomy specimens, supporting the continued use of routine histology.

Introduction

Acute appendicitis is one of the commonest clinical presentations in emergency surgical practice and the diagnosis is made primarily on the basis of the history and the physical findings, with additional assistance from laboratory examinations and radiological studies. The percentage of appendicectomies performed where the appendix is subsequently found to be normal varies between 15% and 30%. Some clinicians advocate delaying surgery to improve diagnostic accuracy in selected doubtful cases; however there have previously been reports that may lead to increased perforation rates and significant mortality. Proponents of “active observation and repeated re-evaluation”, claim a reduction in negative appendicectomy rates with no significant increase in perforation rates or other morbidity.

Plain radiology has little role in the diagnosis of appendicitis, but ultrasonography in experienced hands can be accurate, although false-negatives can occur. It is probably most useful in excluding gynaecological pathology. Computed Tomography (CT) is not so operator dependent and is the investigation of choice, with reports of up to 100% accuracy and negative appendicectomy rates of 7%. High radiation exposure makes it undesirable for the paediatric population, and CT tends to be reserved for more difficult cases, at the extremes of age, where more sinister pathologies exist. Within the areas of the world where these technologies are unavailable, the onus still remains on clinical examination.

The aim of this study was to review the appendicectomy management in our unit. By comparing our results to the published data we hope to identify the optimum management strategy.

Methods

We conducted a retrospective review of the hospital databases and records of two hundred patients who underwent appendicectomy at Prince Rashid hospital. The list of patients was obtained from the operating theatre database, and the clinical records and investigations database were subsequently reviewed.

The pre-operative clinical diagnosis in all cases was acute appendicitis, based on history, clinical examination, laboratory tests and if necessary, radiological investigations. All appendicectomies were open method using grid-iron muscle splitting or small transverse (Lanz’s) incision. Where there was a high clinical index of suspicion, surgery was performed on the same day as admission, after review by the on-call specialist or consultant. In uncertain cases, patients were actively observed on the ward overnight and assessed the next morning by a senior member of the team before a decision was made to operate. All appendixes were removed and sent for histological examination. Records were studied; the inflammation of appendix was graded as uncomplicated, complicated and normal, correlating with the clinical presentation, results of investigations, and operative findings.

Accuracy of diagnoses was defined as the number of histologically confirmed cases per 100 procedures.

Results

Two hundred consecutive appendicectomy procedures were performed for presumed acute appendicitis between November 2006 and June 2007. The age range was from 5 to 70 years with a mean age of 24 years; 58% were males and 42% females, of which 80% were less than 40 years of age. The negative appendicectomy rate was 22.5%, and was significantly lower in males (13.8%)

than in females (34.5%). The mean length of inpatient stay was 2 days.

The most common clinical presentation (56%) was localized right iliac fossa (RIF) pain, with migratory RIF pain (26%) and pain elsewhere (18%) being the next most common presentations. 67% of patients had symptoms of nausea and vomiting, but anorexia was present in 87% of cases. The mean duration of symptoms was 24 hours. Febrile symptoms and pyrexia were only present in 33% of patients. Guarding and rebound was elicited in 77% and 61% of patients respectively.

29 patients were subjected to plain radiology, 3 of which revealed only non-specific features. Ultrasonography revealed appendiceal pathology in 15% of cases.

The operative findings in patients with a normal appendix included pelvic inflammatory disease, mesenteric lymphadenitis, ruptured ovarian cyst, carcinoid of the appendix, terminal ileitis.

Discussion

The accurate clinical diagnosis of acute right iliac fossa pain remains a difficult clinical problem as the differential diagnosis of such pain is not always straightforward. Acute appendicitis is the most common non-traumatic surgical emergency. In spite of all diagnostic modalities it is confusing for the clinician. The main concern relates to delay in diagnosis, leading to risk of perforation, abscess formation and increased morbidity. New diagnostic techniques such as estimation of C-reactive protein, scoring and computer analysis, graded compression ultrasonography, computed tomography, non contrast helical computed tomography and laparoscopy have been introduced in recent years. The drawback with these techniques is involvement of additional costs and lack of free availability. Due to these factors these modalities have not gained wide acceptance as routine diagnostic investigations of acute appendicitis. The diagnosis of acute appendicitis is still primarily based on history and physical examination. In a study evaluating clinical assessment alone in diagnosing appendicitis, accuracy ranged from 78%-97% with values correlating with the surgeon's experience. Although true prevalence of acute appendicitis varies from country to country and race to race, it is not uncommon in our country. As it is said that appendicitis is the disease of younger age, our study supports this view, but no age is immune to appendicitis. In this series the maximum number of patients was seen in the second and third decades (80% less than 40 years). In comparative international study the commonest age group was 10-30 years as 90%.

Pain was the most important presenting symptom and was present in all the patients of our study. This is similar to the study of Adesunkanmi AR, who reported lower abdominal pain in all cases of appendicitis. In our study, the majority of the patients (56%) pain started in the right iliac fossa. In 26% of patients, pain started in the umbilical or epigastric region and later migrated to the right iliac fossa. In the literature, migratory or shifting of pain to the right iliac fossa is variable and is found in 30-64% of patients. Anorexia was the other most common symptom after pain in this study. It was found in 87% of the patients. This figure more or less compares with the literature. According to two studies, anorexia was present in 82% and 77.7% of patients respectively. In one textbook it is the characteristic of acute appendicitis, positive in more than 90% of cases. It seems a reliable symptom and one should deeply inquire about this symptom. Anorexia was also present in 55.5% of cases with normal appendix. In our study 67% of patients experienced nausea and vomiting, once or twice, usually in the early part of disease. This complaint always followed the pain. Review of literature shows that 51-69% of patients with appendicitis vomit. It seems that this symptom has high sensitivity rate but less specificity, as quite a large group of patients (30-50%) with normal appendix also had this symptom.

Tenderness was present in all patients. The degree of tenderness was different in each individual patient, but in obese patients and in older age groups tenderness was elicited on deep palpation. These patients had relatively mild tenderness. Degree of tenderness also depends on difference in sensitivity to pain in different individuals. After a review of different studies, the importance of right iliac fossa tenderness has been concluded that in the absence of tenderness acute appendicitis is unlikely. Muscle guarding and involuntary rigidity were noted in 77% of cases. In our study rebound tenderness was found in 61% of cases and was helpful in diagnosis. It was more marked and persistent in cases of perforated and gangrenous acute appendicitis. It was also present in 22.2% cases of normal appendixes. In two different studies, rebound tenderness was present in 70% and 77.5% of all cases.

The total leukocyte count is widely used to aid the diagnosis of acute appendicitis. Its diagnostic value varies from useful to misleading. The total leukocyte count alone is not diagnostic because it has low specificity. Various studies have reported that 80% to 85% of patients with acute appendicitis will have a total white cell count of over 10,000/mm3. Neutrophilia of more than 75% occurred in 78% of patients. When the white cell count and neutrophil counts are considered together, less than 4% of patients will have normal values. However the present study shows that only 61.3% cases had TLC>10,000/mm3 which is almost similar to the findings of a series that reported a raised TLC>10,000/mm3 in only 49% of 354 patients. A raised TLC is regarded as a sensitive test for acute appendicitis but is not diagnostic because of its relatively low specificity and does not add much to the management in patients with undoubtful clinical findings.

The negative exploration rate of 22.5% in the present study is consistent with the figure of 5.4-30% mentioned in various studies. Normal appendicectomy rate is higher in females (34.5%) than males (13.8%). In a study by Anderson et al, the rate of normal appendix being removed was twice (24%) higher in women than in men 12%.

Conclusion

We conclude from our study that the judgment of an experienced clinician is an adequate diagnostic tool in the majority of cases. We followed a policy "active observation and repeated re-evaluation" which yielded results

comparable to published data without significant morbidity. We found that laboratory investigations provide an adjunct to what is primarily a clinical diagnosis, although cross-sectional radiology can be of assistance in difficult cases at the extremes of age. Our results suggest that optimum management could include further use of diagnostic radiology and laparoscopy to reduce negative appendicectomy rates particularly in females of childbearing age. This has implications on radiology resources.

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Effect of Reproductive Knowledge of Mothers on Pregnancy Wastage in Rural Rajshahi, Bangladesh

Key words: Reproductive Health, Pregnancy Wastage, Reproductive Knowledge Rating, Linear Probability Model.

ABSTRACT

Reproductive knowledge is a vital factor in bearing a child. To have reproductive knowledge and the adverse effect of it over several birth related factors we have collected data from some selected rural areas of Rajshahi District. Some influential factors those influence the reproductive knowledge and their adverse effect on child bearing and pregnancy wastage have been identified. Analyzing our data by some statistical tools like linear probability models we have found that the reproductive knowledge influences pregnancy wastage of mother. The pregnancy wastage of women in two extreme age groups (below 20 and above 35) is tremendously dodgy where as in other age groups this is relatively benign. Knowledge on healthy reproductive behavior as well as lower acceptance of family planning procedure by contraception substantially reduces the risk of pregnancy wastage; however giving more birth increases this risk.

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Introduction

Reproductive health is a crucial part of general health and a central feature of human development. This is a universal concern but is of special importance for women, particularly during the reproductive years. Reproductive health is becoming an emerging issue by United Nations. During the past few decades, there has been a growing recognition of the reproductive health issue for people, particularly women, in the third world countries. Every year at the global level about eight million women suffer from pregnancy related complications and over half a million die. About 99% of them are in developing countries (WHO, 2004). Most of these deaths can be averted even where resources are limited. The poor reproductive health of women in third world countries is an outcome of the general neglect of health and nutrition in childhood and adolescence, which affects their future wellbeing (De Silva 1998).

Improvement of the reproductive health status of women in the third world is being considered as one of the most important goals of human and social development. Reproductive knowledge of mother is highly related to the education level. As about 50% of the total population is woman in Bangladesh, the maternal education is a key factor that can role over a family, even over the country. Specifically, mother's education can change a society which lift-up a country from lower level to upper level because the practices of educated mothers with regard to pregnancy, child birth, immunization, management of childhood diseases etc. are quite different from those of their uneducated counterpart (Govindasamy and Ramesh, 1997). Now to undergo in-depth of our study we would like to discuss some conceptual terms in

brief like new concept of reproductive health, knowledge on reproductive health, reproductive age, pregnancy and pregnancy wastage.

New concept of reproductive health

Reproductive health does not start out from a list of diseases or problems-sexually transmitted diseases (STDs), maternal mortality or from a list of programs like maternal and child health, safe motherhood, and family planning. Reproductive health instead must be understood in the context of relationships like fulfillment and risk, the opportunity to have a desired child or alternatively to avoid unwanted or unsafe pregnancy. This contributes enormously to physical and psychological comfort and closeness and to personal and social maturation or poor reproductive health is frequently associated with disease, abuse, exploitation, unwanted pregnancy and death.

Problems that are specific to women's reproductive process can be divided into two ways. Firstly, problems occurring during pregnancy, delivery, and puerperium are referred to in the medical literature as obstetric (maternal) morbidity. Secondly, problems that occur to non-pregnant women and outside the puerperal period of six weeks are known as gynecological morbidity.

Knowledge on reproductive health

Reproductive health is an important component of general health and it is a pre-requisite for social, economic, and human development. Knowledge on reproductive health such as early and unwanted pregnancy, HIV, and other sexually transmitted infects and pregnancy related illness and death account for a significant part of the burden of diseases among adolescent and adults. To improve knowledge on reproductive health, efforts have so far focused on the approaches such as antenatal care, tetanus toxic immunization, iron supplementation, training of traditional birth attendants for clean and safe delivery practices and family planning.

Women in reproductive age

Women can conceive and produce child safely within certain age limits. Usually, it indicates childbearing period or reproductive span of women. Generally, the age from 15 to 49 years is considered as reproductive span for women.

Pregnancy and pregnancy wastage

Pregnancy is the state of female which is produced due to the implantation of the fertilized ovum in the uterine endometrium and ultimately giving rise to a foetus (Jeffcoate, 1975). In an average, duration of pregnancy accepted 280 days from the first day of last menstruation. Pregnancy wastage may be defined as the loss of product of conception normally or therapeutically and can be classified as intra-uterine foetal death, abortion, and menstrual regulation (Jeffcoate, 1975; and Shaw, Soutter and Stanton, 2003). In our study, we have dealt with the normal pregnancy wastages only that are not therapeutically wasted.

Review of Literature

Many researchers have evaluated factors affecting maternal education and reproductive health of women that vary from one geographical area to another. Ardebili, Kamali, Pouranssari, and Komarizadeh (1987) studied the reproductive behavior of 1525 pregnant women at the time of pregnancy termination in relation to maternal age, education, prenatal care, and number of previous pregnancies. The results showed that the frequency of maternal attendance at prenatal care centers was significantly related to maternal education and that total pregnancies or woman is inversely correlated with maternal education. The type of pregnancy termination which resulted in live birth or abortion has significant relation to the age of mother. Again, the highest percentage of abortion was observed in (15-19) age group and the highest number of natural deliveries was observed in the age group (20-29).

Govindasamy and Ramesh (1997) used Indian's National Family Health Survey (1992-93) data and showed that there is a consistently strong association between maternal health care utilization and mother's education. In the country as a whole, only half of births to illiterate women received antenatal care compared to 79% of births to literate women with less than middle school education and more than 90% of births to women with at least middle school education. Only 12% of births to illiterate women are delivered in institutions compared with 67% of births to women with at least a middle school education. Similarly, only one-fifth of births to illiterate women are attended by a health professional where as three-fourth of births to women with at least a middle school education.

Mothers in third world countries with their limited resources and cultural background, rarely give priority to their health problems except where there is a life threatening danger (Bhatia and Cleland, 1995). Hence it is not surprising that such women are also reluctant to admit having health problems or hesitate to seek medical help, especially if ailment is related to reproductive health (Bang et al, 1989). Shidhu and Shidhu (1988) studied the case of pregnancy wastage in scheduled caste women of Punjab and identified some causes of more pregnancy wastage. Besides these, Banerjee and Hazra (2004) investigated some socio-economic determinants of pregnancy wastage. But no such elaborate works have been conducted in Bangladesh.

Although reproductive health and knowledge on it is a vital issue by United Nations and in every country world wide, there have been some efforts to do the same in Bangladesh. Ashraf et al (2001) showed that 90% of the rural and urban women had the knowledge about menstrual hygiene, need of antenatal care visits, and immunization during pregnancy. But 55% of women were not aware of complications associated with pregnancy and post-delivery with a notable difference between rural and urban areas. Surprisingly, 68% of the women in both rural and urban areas had knowledge about delivery related complications.

Khanum et al. (2000) explained the complications of pregnancy and childbirth regarding the knowledge and practices of women in Rural Bangladesh. Women's knowledge on symptoms of complications relating to pregnancy, delivery, and after-delivery was found to be high in Abhoynagar Thana in Mirsarai. More than 60% of them had knowledge of severe vomiting as a complication during pregnancy in both the areas. Nearly half of the Abhoynagar women and one-third in

Mirsarai were aware of severe bleeding as a post-delivery complication. More than two-fifth (42.5%) of the women of Abhoynagar and 30.7% women of Mirsarai mentioned oedema as a danger sign of pregnancy.

Bangladesh has among the lowest indicators of use of maternal health care services in the world. Recently around 67% of all pregnant women had no antenatal check-up throughout their whole pregnancy, around 92% of deliveries occur at home and approximately 87% of deliveries occur without the presence of a skilled attendant (ICDDR, B, 2003). Less than one-half of pregnant women obtain antenatal care and almost all births (91%) occur at home, generally with an unskilled attendant (BMSS, 2002 and BDHS, 2000). Limited access to essential obstetric contributes to high maternal mortality and has been estimated to be 320 to 400 per 100,000 live births (BMMS, 2002). Thus no clear policies have been formulated towards ensuring basic obstetric care at the community level. But the regional study of these factors is really shaky. A study on Tangail and Noakhali district confirmed only on some indicators like total population, crude birth rate, expected number of deliveries, life saving obstetric surgery and unmet need only. But no such study has been conducted in the district of Rajshahi in Bangladesh. From the above review, it is obvious that there are many scopes of conducting research. To our knowledge, no work has been done yet in Rajshahi district regarding different factors like reproductive knowledge, pregnancy wastage, delivery status, acceptance of family planning and their impacts on each other.

In this paper an attempt has been made to investigate the impact of reproductive knowledge, acceptance of family planning, birth spacing, number of live birth, age, education, and occupation of mother on pregnancy wastage.

Data and Ananlytical Methods

Data

The data were collected from a field survey conducted in the rural area of the district of Rajshahi in Bangladesh. We selected Baksimoil Union of Mohanpur Thana as a representative part of Rural Rajshahi. We have collected information from 1500 mothers by preparing a questionnaire.

Analytical Methods

In our study we have used mainly the tabular system of data, and rating the knowledge on reproductive behavior. We have also used the linear probability models to predict the pregnancy wastage and to identify the impact of some most influential variables.

Linear probability model

Let us consider a simple model

$$Y_i = \beta_1 + \beta_2 X_i + u_i$$

where X is the reproductive knowledge rate, Y = 1 when pregnancy wastage occurs, and Y = 0 when there depicts no pregnancy wastage.

This model expresses the dichotomous Yi as a linear function of the explanatory variables Xi and is called linear probability model. Now the conditional expectation ofYi given Xi can be interpreted as the conditional probability that the event will occur given Xi, that is, $\Pr(Y_i = 1 | X_i)$.

Thus $E(Y_i | X_i)$ gives the probability of pregnancy wastage whose reproductive knowledge is rated as Xi (Gujarati, 1995).

Assuming to find an unbiased estimator we obtain $E(Y_i | X_i) = \beta_1 + \beta_2 X_i$. Now letting Pi probability that Yi = 1 (the event occurs) and 1-Pi probability that Yi = 0 (the event does not occur), the variable has the following distribution:

Y_i	Probability
0	1- P_i
1	P_i
Total	1

Now by the definition of mathematical expectation we obtain $E(Y_i | X_i) = \beta_1 + \beta_2 X_i = P_i$. Thus we can write the conditional expectation as probability, that is, $E(Y_i | X_i) = \beta_1 + \beta_2 X_i$.

Since the probabilityPi must lie between 0 and 1, we have the restriction $0 \le E(Y_i | X_i) \le 1$, that is, the conditional expectation or conditional probability must lie between 0 and 1.

The general expression of the linear probability model (LPM) is

$$Y = \beta_1 + \beta_2 X_1 + \beta_3 X_2 + \Lambda + \beta_{k+1} X_k + u$$

where, Y equal to 1 or 0 according as pregnancy wastage occurs or not, Xi and ‘s are explanatory variables like reproductive knowledge rating, acceptance of family planning, birth spacing, total number of live birth, age of respondent, and other relevant factors.

Reproductive knowledge rating

We have collected some reproductive knowledge (opinion) related information like risk of pregnancy before 18 years, taking iron tablets during pregnancy, vitamins before and after birth, T.T. injection during pregnancy, medical check-up, understand pregnancy complications, need of safe birth attendant, and birth spacing. Assuming these eight factors have uniform weight we have scored on knowledge for every factor. We rated for each factor such that if one had knowledge about a factor and she did according her knowledge then we had rated her knowledge as 1/8=0.15 for that factor and 0 otherwise. For example, if a respondent replies that she has taken T.T. injection during pregnancy (obviously she knows it) then we have rated her knowledge 0.15 for this factor. Finally we have summed the scores of all eight factors to obtain the rate of knowledge that is then termed as reproductive knowledge rate. If a respondent bears knowledge on each of these eight factors in mind then she is termed to have perfect knowledge of reproductive behavior. Thus this knowledge rating ranges between 0

and 1.

RESULTS AND DISCUSSIONS

Some basic characteristics of the study population have been incorporated in Table 1. We observe that the highest number of respondents is aged between 25-29 years and the lowest number of respondents is aged between 45 to 49 years. By the constitutional law of Bangladesh the minimum age at first marriage for women is 18 years and in an average first age at marriage is found 20.44 years and 21.4 years in urban and rural areas, respectively (SVRS, 2002). But in our study area early marriage is most frequent and more than 90% respondents get married before their early eighteens. This clearly depicts that the female populations in that study area and their guardians are not aware of the extent of various physical and mental complications for early marriage. The most vulnerable sight of this early marriage is that the mean age at marriage of the study population is only 16.8 years.

Age at first birth is also a measure of proper reproductive behavior. In Bangladesh average age at first birth is 19 (BDHS, 2001). But, early pregnancy and early motherhood is commonly observed in our study area. More than 70% of married women gave their first birth before reaching 20 years of age. The tendency of early motherhood is so high that the mean age at first birth is only 18.7 years, that is, most of the mothers are in high risk with respect to their proper physical growth of being pregnant.

Gender equity is acceptable worldwide. Many government and non-government organizations are working for establishing gender equality over the country and are encouraging women to work with their male counterpart. However, around 98% of married women in this area are house keeper. Although the Government of Bangladesh launched two-child program several years (nearly 25 years) ago in 1980, around one-fourth respondents have more than two children, that is, the effect of family planning services is very slow here.

Two consecutive births within 24 months (2 years) are very risky for mother's health. However, 15% mothers gave their last birth before two years from their previous birth. Only 44% of mothers in this area maintained proper child spacing. Surprisingly enough that very limited number of respondent bear knowledge on healthy reproductive behavior. Most of the females in this study area are not aware of their reproductive health. The most perilous deed is that mean reproductive knowledge rating is only 0.45 that covers the 45% of most influential knowledge of reproductive behavior.

Education is the single most factors that accumulate knowledge on social as well as reproductive behavior. Illiteracy is common here and around one-third respondent and their husbands are illiterate. Only one-third of our study population with their husband studied at primary level only. Lack of much formal education may cause such fall in reproductive knowledge rating.

Further, the proportions of pregnancy wastage to mother have been computed just dividing the number of pregnancy wastage in a certain age group by the number of women in that age group. The proportion of pregnancy wastage to mother depicts that pregnancy wastage is higher for below 20 age groups and above 35 age groups (Fig.1). Pregnancy wastage may be a result of many causes. But we have counted only unintentional pregnancy wastages.

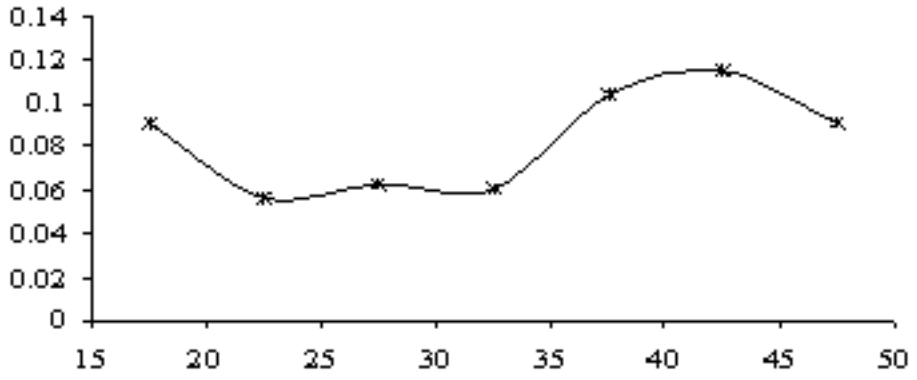

Table 1: Characteristics of study population

Respondents by age group	Age	15-19	20-24	25-29	30-35	35-39	40-44	45-49	Total
	No. of Women	186	334	350	294	192	122	22	1500
		12.4%	22.3%	23.6%	19.6%	12.8%	8.1%	1.5%	100%

Age at first marriage	Age	<18 years	>18 years	Total	Mean
	No. of Women	1360	140	1500	16.8
		90.7%	9.3%	100.0%	

Age at first birth	Age	<20 years	>20 years	Total	Mean
	No. of Women	966	378	1344	18.7
		72%	28%	100%	

Occupation of respondent	Work type	House keeping	Other	Total
	No. of Women	1468	32	1500
		97.9%	2.0%	100%

Number of children at present	Children	<2	2	>2	No child	Total
	No. of Women	430	546	368	156	1500
		28.7%	36.4%	24.5%	10.4%	100%

Spacing of last two births	Duration	1	2	3	4	5	6	Total
	Females	139	376	221	138	34	2	914
		15.2%	41.1%	24.2%	15.1%	37.2%	0.2%	100%

Reproductive knowledge ratings	Rates	<0.2	0.2-0.4	0.4-0.6	0.6-0.8	0.8-1.0	Total	Mean
	Respondents	166	328	756	140	110	1500	0.45
		11.1%	20.9%	50.4%	9.3%	7.3%	100%	

Education level of respondent	Level	Illiterate	Primary	Secondary	H Secondary	Higher	Total
	Respondent's education	480	516	426	36	42	1500
		32.0%	34.4%	28.4%	2.4%	2.8%	100%
	Husband's education	500	454	372	82	92	1500
		33.3%	30.3%	24.8%	5.5%	6.1%	100%

Pregnancy wastage	Age	15-20	20-25	25-30	30-35	35-40	40-45	45-49	Total
	Respondents	186	334	350	294	192	122	22	1500
	Mother with pregnancy wastage	17	19	22	18	20	14	2	109
	Proporstion	0.0914	0.0569	0.0628	0.0612	0.1042	0.1147	0.0909	

Now we fit linear probability model using occurrence and non-occurrence of pregnancy wastage as the dependant variable. We have dealt with several explanatory variables like reproductive knowledge rating, acceptance of family planning, total number of live birth, age, working status and education level of respondent. We found that only reproductive knowledge rating, acceptance of family planning, and numbers of live children were significantly affecting the pregnancy wastage. However age, working status and education level showed no significant effect on pregnancy wastage. Thus our fitted linear probability model includes only those significant factors and can be expressed as

$$\hat{Y}_i = 0.0032 - 0.4572X_1 + 0.1403X_2 - 0.2316X_3$$

$$t = \quad (2.673) \quad (-5.244) \quad (2.742) \quad (-3.468)$$

where X1 represents reproductive knowledge rating (continuous variable), X2 = 0 when number of children is less than or equal to two and X2 = 1when the number of children is more than two, and X3 = 0 when the respondent accepts family planning and X3 = 1when she does not accept it. The dichotomous dependent variableYi is such that when there depicts no pregnancy wastage then Yi = 0 and when there occurs any pregnancy wastage then Yi = 1.

We observe that increase in reproductive knowledge and acceptance of family planning (contraception) substantially decreases the risk of pregnancy wastage. But the increased number of living child as well as increased number of birth increases the risk of pregnancy wastage. We can also explain theses feature that with the 10%, 20%, and 30% increase in reproductive knowledge rates the risk of pregnancy wastage is decreased by 4.57%, 9.14%, and 13.71%, respectively subject to the condition that all other factors in the model are fixed at certain level.

Concluding Remarks

Now we fit linear probability model using occurrence and non-occurrence of pregnancy wastage as the dependant variable. We have dealt with several explanatory variables like reproductive knowledge rating, acceptance of family planning, total number of live birth, age, working status and education level of respondent. We found that only reproductive knowledge rating, acceptance of family planning, and numbers of live children were significantly affecting the pregnancy wastage. However age, working status and education level showed no significant effect on pregnancy wastage. Thus our fitted linear probability model includes only those significant factors and can be expressed as

where represents reproductive knowledge rating (continuous variable), when number of children is less than or equal to two and when the number of children is more than two, and when the respondent accepts family planning and when she does not accept it. The dichotomous dependent variable is such that when there depicts no pregnancy wastage then and when there occurs any pregnancy wastage then

We observe that increase in reproductive knowledge and acceptance of family planning (contraception) substantially decreases the risk of pregnancy wastage. But the increased number of living child as well as increased number of birth increases the risk of pregnancy wastage. We can also explain theses feature that with the 10%, 20%, and 30% increase in reproductive knowledge rates the risk of pregnancy wastage is decreased by 4.57%, 9.14%, and 13.71%, respectively subject to the condition that all other factors in the model are fixed at certain level.

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Emotional Intelligence (EI) and Psycho-pathology in Iranian University Students

Key words: **emotional intelligence, emotional regulation, psychopathology, students**

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ABSTRACT

Research on emotional intelligence and psychopathology, has had challenging findings. In order to enrich this area of knowledge, the present study was performed to investigate the relationship between emotional intelligence and psychopathology. A sample of 182 students (113 girls and 69 boys, aged 19-29 with 21.15 mean & 1.47 SD) from Tabriz University, who were selected by multi-level clustering method, were assessed by emotional intelligence scale (MSEIS) and symptom check-list (SCL-90-R). Results showed that emotional intelligence has a negative correlation with all pathological symptoms. Also, regression analysis indicated that emotional regulation as a factor of emotional intelligence, can significantly predict a symptom's variance. In general, these findings reveal that emotional intelligence and its factors has a considerable role in both prevention and treatment of pathological signs and symptoms.

Introduction

The human being's daily life is full of various stresses. Some of these stresses cause a lot of troubles that leads to people experiencing massive disorders. Emotional and affective disturbances are an important factor in developing mental disorders. Findings show that emotional disturbance is a fundamental aspect of schizophrenia, organic mental disorders, psychosomatic disorders, and personality disorders (Leible & Snell, 2004; Lane & Schwartz, 1987). Thus, emotional abilities are very important to mental health and adaptation to life situations.

The concept of Emotional Intelligence (EI) that has begun to attract the attention of researchers and mental health professionals, give hopeful findings in integrating broad emotional abilities. EI consists of the interaction between emotion and cognition that leads to adaptive functioning (e.g., Salovey & Grewal, 2005). The four-branch model of EI (Mayer, Salovey, & Caruso, 2004) posits that EI involves the interrelated abilities of (a) perception of emotion in the self and others, (b) using emotion to facilitate decision making, (c) understanding emotion, and (d) regulating emotion in the self and others.

Mayer et al. (2004) argued that EI is best conceived of as ability, so it is better to use maximal performance tests for assessment purposes. In this regard, Mayer, Caruso, and Salovey (1999) developed first the Multifactor Emotional Intelligence Scale (MEIS) and then its successor, the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, Caruso, & Sitarenios, 2003).

EI has also been conceptualized as a trait (Neubauer & Freudenthaler, 2005; Petrides & Furnham, 2001). This method is similar to personality characteristics such as extroversion or conscientiousness. Trait conceptualization of EI can be applied to a wide range of definitions in this area. On one side, we can see the mixed model definition of EI proposed by Bar-On (2000) that operationalized through the EQ-i, and on the other side, there are narrower definitions such as the one originally proposed by Salovey and Mayer (1990), operationalized through the Assessing Emotions measure (Schutte et al., 1998); or some aspects of their earlier definition operationalized through the Trait Meta-Mood Scale (Salovey et al., 1995).

Research on EI and its relationship with various levels of healthy behaviors, has had valuable outcomes. For example, Jain & Sinha (2005) showed that EI has a positive association with general health and can even predict it. Also, we found a positive association between EI, general health and adaptive problem-solving styles (Zarean, Asadollahpour, & Bakhshipour, in press).

A lot of studies, also, examined the relationship between EI and life satisfaction (e.g., Bastin, Borenz, & Nettlebeck, 2005; Austin, Saklofske, & Egan, 2005). Although, the largest part of life satisfaction variance is under the common variables such as personality and abstract intelligence; research indicates that EI can significantly explain a certain amount of life satisfaction variance (Exteremra & Fernands-Brocal, 2005; Gannon & Ranzin, 2005; Palmer, Donaldsen, 2002). The findings of these studies were significant through the control of mood, personality, and intellectual factors effects.

The factors named by Mayer et al. (2004) as the bases of EI, may contribute to mental and physical health in various ways. Matthews, Zeidner, and Roberts (2002) pointed out that level of EI may have implications for both mental disorders in which emotion plays a central role as well as disorders which have non-emotional properties.

Mood and anxiety disorders are examples of disorders that have maladaptive emotional states as core symptoms. The better perception, understanding, and management of emotion of those with higher EI may prevent development of maladaptive emotional states associated with mood and anxiety disorders (Matthews et al., 2002). Also, Schutte et al (2002) found that those with higher EI do tend to have typically a more positive mood and are better able to repair mood after a negative mood induction.

Lack of emotional awareness and inability to manage emotions are key symptoms in some personality disorders and impulse control disorders (Leible & Snell, 2004; Matthews et al., 2002). Supporting a link between these variables, Schutte et al (1998) found that EI is associated with alexithymia and impulse control. Further, those with higher EI might be better able to follow through on commitments to health behaviors and show better medical compliance (Schutte et al., 2007).

Overall, findings show a strong relationship between EI and mental disorders. However, existing studies often contain one or two disorders, and there is limited knowledge about EI and its relation to the broad spectrum of mental disorders noted in DSM.

According to these findings, we can hypothesize that there is a systematic relationship between EI and some of mental disorders - at least in the level of symptomathology. Thus, the current study was performed to investigate the relationship between EI and a set of mental disorders. In other words, this study was carried out to determine which pathological symptoms - presented in DSM - have a significant and systematic relationship with EI.

Methods

Participants

The sample in the present study consisted of 182 students (69 males and 113 females) aged 19-29 (mean=21.15 & SD=1.47) from Tabriz university, who were selected through multi-level clustering method.

Measures

Modified Schutte Emotional Intelligence Scale (MSEIS): Austin et al (2004) introduced a modified version of Schutte Emotional Intelligence Scale (Schutte et al., 1998). New questionnaires consisted of 41 items along a 5-point Likert scale, of whicj 21 of the items were reverse keyed. Austin et al (2004) used Cronbach's coefficient alpha to evaluate its internal consistency (0.85). This scale was translated to Farsi by the authors of current study and obtained psychometric properties through three separate sets of research. Internal consistency of Farsi version is 0.84 (Bakhshipour, Zarean, & Asadollahpour, in press). Also, we found that the present scale has a positive association with GHQ-28 (Zarean et al., in press), and a negative association with psychosocial deviation (Zarean, Asadollahpour, & Bakhshipour, unpublished data).

Symptom Check-List - 90 - Revised (SCL-90-R): This check-list is one of the most useful tools for psychological screening. It has 90 items for assessing psychological symptoms that include depression, somatization, obsession, anxiety, psychoticism, phobia, hostility, paranoid ideation, and interpersonal sensitivity. A 5-point Likert scale was used to measure a participant's responses. In the study of Javidi (1372) on an Iranian sample, high reliability coefficients were obtained (sensitivity= 0.88, specificity= 0.81, & validity= 0.95).

Procedure

The statistical methods used in the present study are Pearson correlation coefficient and regression analysis carried out through SPSS (version 11.5, 2002) software.

Results

Means and Standard Deviations for the MSEIS and its four factors and the SCL-90-R and its indexes for boys, girls, and total sample are presented in Table 1.

Table 1 Means and standard deviations for the MSEIS and SCL-90-R

	Boys (n=69)		Girls (n=113)		Total sample (182)	
	Mean	SD	Mean	SD	Mean	SD
Somatization	9.17	7.82	10.8	8.39	10.8	8.2
Obsession	11.97	7.67	11.12	7.07	11.45	7.29
Interpersonal sensitivity	9.25	7.3	10.33	7.06	9.92	7.15
Depression	14.32	9.81	16.83	11.74	15.88	11.09
Anxiety	9.33	7.33	10.31	8.23	9.94	7.89
Hostility	6.17	5.75	5.42	6.06	5.7	5.94
Psychoticism	9.45	6.51	8.65	6.69	8.95	6.61
Paranoid ideation	959	5.42	9.29	4.51	9.41	4.86
Phobia	3.45	3.65	4.12	4.51	3.86	4.21
Add items	7.41	5.24	6.91	4.51	7.1	5.03
GSI	1	0.5	1.04	0.65	1.03	0.63
PSDI	1.85	0.55	1.88	0.56	1.87	0.56
Emotional appraisal	38.45	5.5	39.1	5	38.86	5.19
Emotional regulation	25	5.06	24.34	4.85	24.59	4.93
Utilization of emotion	26.75	3.93	26.37	3.5	26.52	3.66
Social skills	28.26	5.06	27.8	4.48	27.97	4.71
Total EI	149.3	17.98	148.52	15.18	148.82	16.21

The relationship between emotional intelligence and its four factors and the SCL-90-R indexes were examined using Pearson correlations. As shown in Table 2, emotional intelligence and its four factors correlated significantly with all indexes of SCL-90-R. Although some correlations - such as paranoid ideation - were weak (r=-0.17), but regarding other correlations, our hypothesis was confirmed in the high level of significance.

Table 2 Correlations between MSEIS and SCL-90-R (n=182)

	Emotional appraisal	Emotional regulation	Utilization of emotion	Social skills	Total EI
Somatization	-0.35***	-0.46***	-0.21**	-0.2**	-0.39***
Obsession	-0.31***	-0.5***	0.08	-0.22**	-0.37***
Interpersonal sensitivity	-0.23***	-0.55***	-0.03	-0.2**	-0.34***
Depression	-0.25***	-0.57***	-0.1	-0.21**	-0.35***
Anxiety	-0.32***	-0.54***	-0.15*	-0.19**	-0.38***
Hostility	-0.23**	-0.4***	-0.19**	-0.09	-0.27***
Psychoticism	-0.2**	-0.5***	-0.04	-0.17*	-0.3***
Paranoid ideation	-0.12	-0.33***	-0.06	-0.02	-0.17*
Phobia	-0.34***	-0.4***	-0.15*	-0.16*	-0.36***
GSI	-0.32***	-0.58***	-0.14*	-0.2**	-0.4***
PSDI	-0.17*	-0.38***	-0.05	-0.1	-0.22**

* p< 0.05 , ** p< 0.01 , *** p< 0.001

In order to determine if emotional intelligence can predict the variance of psychopathological symptoms, we used regression analysis for each symptom. Detailed findings for these analyses are presented in Table 3 and 4.

a) Emotional Appraisal: Table 3 shows that emotional appraisal can explain just some part of the variance of somatization, obsession, and phobia. So, it seems that emotional appraisal that includes perception and expression of emotion in self and others; is the area that patients with somatic, obsessive, and phobic symptoms are suffering from.

Table 3 Regression analysis of MSEIS on SCL-90-R

	Emotional appraisal		Emotiona lregulation		Utilization of emotion		Social skills		Constant
	Beta	t	Beta	t	Beta	t	Beta	t	
Somatization	-0.19	-2.02*	-0.39	-4.94***	-0.01	-0.05	0.05	0.68	35.59
Obsession	-0.22	-2.32*	-0.44	-5.78***	0.16	1.93	0.01	0.14	30.24
Interpersonal sensitivity	-0.06	-0.92	-0.57	-7.65***	0.15	1.85	0.04	0.49	25.22
Depression	-0.03	-0.32	-0.59	-7.93***	0.04	0.53	0.05	0.67	43.95
Anxiety	-0.14	-1.51	-0.53	-6.99***	0.03	0.38	0.1	1.31	32.35
Hostility	-0.01	-0.09	-0.43	-5.34***	-0.13	-1.42	0.15	1.92	19.03
Psychoticism	-0.04	-0.45	-0.53	-686***	0.1	1.2	0.05	0.62	21.73
Paranoid ideation	0.02	0.18	-0.4	-4.82***	-0.03	-0.31	0.16	1.99*	14.85
Phobia	-0.27	-2.77**	-0.33	-4.064***	0.07	0.83	0.06	0.97	15.08

* p< 0.05 , ** p< 0.01 , *** p< 0.001

Table 4 The amount of SCL-90-R variance predicted by MSEIS factors

	R	R2
Depression	0.57	0.33
Interpersonal sensitivity	0.57	0.32
Anxiety	0.55	0.3
Obsession	0.52	0.27
Psychoticism	0.51	0.26
Somatization	0.49	0.24
Phobia	0.45	0.2
Hostility	0.43	0.19
Paranoid ideation	0.36	0.13

b) Emotional Regulation: An inspection of Table 3 indicates an important role of emotional regulation in all psychopathological symptoms. The comparison of the "Beta" and "t" coefficients between this factor and the other three factors reveals the considerable role of emotional regulation in the explanation of symptoms variance. It means that some emotional abilities such as understanding and perception of emotion; reducing emotions to micro-elements; understanding and perception of one affective mode changing to another; and understanding complicated feelings in social situations; are areas that commonly have a deficit and present a massive spectrum of psychopathological symptoms.

c) Utilization of Emotion: an interesting finding in the present study is related to the role of utilization of emotion in psychopathology. Table 3 indicates that there is no significant role for utilization of emotion in predicting the variance of psychopathological symptoms; although, this role is close to significance about obsession and interpersonal sensitivity. Thus, deficits on the components of utilization of emotion such as cognitive flexibility, creative thinking, re-attention, and motivational processes show themselves more in the obsession and interpersonal sensitivity.

d) Social Skills: Like the utilization of emotion, this factor has no more power in predicting the variance of psychopathological symptoms. Regarding paranoid ideation it seems that deficits in effective communication along with others, is the vulnerable aspect.

Overall, the current study findings demonstrate a link between emotional intelligence and psychopathology, and there is acertain role for emotional intelligence factors in predicting the variance of psychopathological symptoms. However, more

conclusions about the results are presented in discussion.

Discussion

The findings of the present study show that emotional intelligence and its four factors had a negative association with somatization symptoms that are consistent with the findings of Thompson et al. (2007), and Lane & Schwarts (1987). Also, emotional symptoms such as depression, anxiety, obsession, and phobia are negatively correlated with total score and factors of emotional intelligence as in previous studies (see Thompson et al., 2007; Schutte et al., 2007; Jain & Sinha, 2005; Matthews et al., 2002; Dawda & Hart, 2000; and Zarean et al., in press). However, we should say there is limited knowledge about emotional intelligence and its relationship with obsession and phobia, and the present study might be the primary data in this area. Also, the relationship of emotional intelligence with paranoid ideation and interpersonal sensitivity is under debate and we found no data in this regard.

The association of emotional intelligence and four factors with psychoticism, is significantly negative, confirmed Each et al. (2007) and Lane & Schwartz (1987) findings. And the latest result about a negative relationship between emotional intelligence and hostility is consistent with the findings of Leible & Snell (2004), Quebbeman & Rozell (2002), and Ramazani & Abdollahi (2006). According to these findings, it is clear that in the broad range of psychopathology we can find emotional and affective components, and various investigations performed to explain these associations.

We should consider that emotion - has an important factor in human life and a vital role in species survival - has specific complexities, so psychologists and mental health professionals explained different aspects in its description. On the other hand, emotional intelligence is a multidimensional construct. Thus, it is necessary to consider these dimensions in treatment and rehabilitation planning.

As noted in the results, emotional intelligence studied in this research, has four factors:

a) emotional appraisal,

b) emotional regulation,

c) utilization of emotion, and

d) social skills.

An inspection of Table 2 and 3 shows that emotional regulation has a negative association with SCL-90-R and in comparison with the other three factors, can better predict amount of symptom variance.

Intellectual regulation of emotion is necessary for emotional promotion and adaptive development. Individuals with high skill in emotional regulation, moderate and minimize negative affect mode, and intensify positive affects without the manipulation or repression of related cognitive information. Skills in emotional regulation cause people to maintain their positive mood, and effective use of mood repairing strategies, when they experience negative mood and affect.

Emotional knowledge can also help in the regulation of emotions. For this purpose, an individual must first acquire some information about causal relationship between circumstances and emotional experiences. Then according to this knowledge, he/she conceptualizes some hypotheses about his/her arousability in such situations, and finally, trains his/her effective emotions due to the ability of emotional experiences analysis.

It is clear that becoming skillful in emotional regulation one needs to have necessary abilities in other components of emotional intelligence. It means that we should perceive different affective modes, correctly; effectively utilize our emotional abilities in solving everyday life problems; and be sensitive and aware of affective elements in interpersonal relationships.

Overall, according to the current study, it seems that there are hopeful findings about the association of emotional intelligence and its factors with psychopathological symptoms; although well-controlled research is needed for prevention and therapeutic purposes. Also, because of challenging ideas about the construct validity of emotional intelligence and its differentiation from cognitive abilities and personality characteristics, it is important to undertake investigations considering these variables.

Acknowledgement

Special thanks to Dr. Pour Shahbaz for the methodological points and helpful comments on earlier drafts of this paper.

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Clinical Aspects of Scorpion Envenomation in Children in Aqaba Region, South of Jordan

Key words: **Scorpion sting, Antivenom, Pulmonary edema**

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ABSTRACT

Objectives: *The aim of this study was to evaluate the clinical manifestations of scorpion stings in children and their management in Aqaba region, south of Jordan.*

Setting: *Princess Haya Hospital; a busy district general hospital in the south of Jordan.*

Patients and Methods: A prospective study was carried out for children up to the age of fourteen years who were admitted to the hospital with a diagnosis of scorpion sting during the period from March 2005 to March 2007.

Results: 75 children were admitted to the paediatric ward during the study period. The age ranged from two weeks to 14 years, with a male to female ratio of 3:1. The age group mostly affected was the 2-4 year age group. The highest record was in the summer period (60%) as compared to the lowest in the winter period (5%). Yellow scorpions, Leiurus quinquestriatus, were the culprits in 75% of cases. Local pain was the primary presenting complaint (90%). Salivation, hypertension, sweating, and tachycardia were the most common signs of systemic symptoms. Severe systemic signs of envenomation were recorded in (32%) and one child died of massive pulmonary edema. All the patients received analgesia, systemic steroids, antihistamine and application of ice and a period of observation in the intensive care unit. All patients who developed systemic symptoms of envenomation received intravenous antivenom and no side-effects were seen in the patients studied.

Conclusion: The severity of the scorpion envenomation was most likely dependent upon the type of offending scorpion, the dose of venom injected by the scorpion and the susceptibility of the individual. We recommend that specific antivenom should be given intravenously in all children who show significant symptoms.

Introduction

Scorpion envenomation is a common medical problem dealt with in our pediatric practice and it is an important cause of morbidity and mortality, especially among children.

Due to their innocent and explorative nature, children are frequent victims but fortunately most of them recover uneventfully. However, given their small size, infants are at risk for severe autonomic dysfunction, multisystem organ failure, and even death, but the majority of stings cause only a painful local reaction(1).

The clinical manifestations of scorpion stings vary markedly which seems to be species-dependent. In India, Israel, Brazil and Mexico cardiac manifestations are common; in Iran tissue necrosis and hemolysis occur; in South Africa and USA neurological features occur and in Trinidad acute pancreatitis dominates the picture(2). In Jordan, a total of 14 scorpion species has been recorded. 4 are considered venomous to man. The yellow scorpion, Leiurus quinquestriatus, is the most venomous and abundant species, and are known to inflict serious clinical symptoms(3).

In this study we aimed to underline the importance of scorpion envenomation in children as a significant cause of morbidity and mortality. Furthermore, a longer period of observation is advised following scorpion stings in children and close observation in an intensive care unit may be required in severe cases where rapid intervention for life-threatening complications may be life saving.

Patients and Methods

This was a 2-year prospective study conducted at Princess Haya Hospital in Aqaba, in the south of Jordan during the period from March 2005 to March 2007. The medical records of 75 patients with a diagnosis of scorpion sting were reviewed. Their ages ranged from two weeks to 14 years. The patients' age distribution was divided into 4 groups (Table 1). The number of patients per season was detailed (Table 2).

The diagnosis of scorpion sting was based on positive history of scorpion sting, with scorpions being seen or killed by relatives. Clinical details including careful physical examination and vital signs measurement were recorded on arrival and regularly thereafter. Electrocardiogram(ECG) and chest X-ray were done for all patients.

The patients were classified according to the severity of envenomation into three grades. Grade I (mild envenomation) refers to patients presenting with only local symptoms, local pain, and a burning sensation. Grade II (moderate envenomation) refers to patients presenting with local and general symptoms. Grade III (severe envenomation) refers to patients presenting with local and general symptoms, together with cardiocirculatory shock, respiratory failure, acute pulmonary edema, hyperthermia, and neurologic symptoms such as priapism, convulsions, or coma (Table 3).

Pulmonary edema was diagnosed on the basis of clinical findings of tachypnea with basal crepitations in the chest, and transient systolic apical murmur. Massive pulmonary edema

was defined if the child had orthopnea, cyanosis, extensive bilateral crepitations and irritable cough with reddish frothy sputum. Details of the treatment administered and outcome were recorded.

Results

A total of 75 children were admitted to the pediatric ward with the diagnosis of scorpion sting during the study period. The age ranged from two weeks to 14 years. Fifty three (70%) of our patients were males and 22 (30%) were females, with a male to female ratio of 2.4:1. The age group mostly affected was the 2-4 year age group (40%), followed by the 4-8 year and <2 years respectively (Table 1).

Table 1. The patients' age distribution

Age group	No. of patients	%
< 2 years	18	24%
2-4 years	30	40%
4-8 years	21	28%
8-14 years	6	8%

The highest record was in the summer period (60%), followed by spring period (24%) and the lowest record was in the winter period (5%) (Table 2).

Table 2. Seasonal variation of scorpion stings

Season	No. of patients	%
Summer (May-Aug)	45	60%
Spring (Mar-April)	18	24%
Autumn (Sept-Oct)	8	11%
Winter (Nov-Feb)	4	5%

Local pain was the commonest presenting complaint 72 (96%). Salivation, hypertension, sweating, and tachycardia were the most common signs of systemic symptoms. Mild and moderate envenomation was recorded in 30 (40%) patients and 21 (28%) patients respectively. Severe systemic signs of envenomation were recorded in 24 (32%) of patients and one child died of massive pulmonary edema and four patients needed mechanical ventilation (Table3).

Table 3. Severity of envenomation in our patients:

Grade of severity	No. of patients	%
Grade I (Mild envenomation)	30	40%
Grade II (Mod. envenomation)	21	28%
Grade III (Severe envenomation)	24	32%

All the patients received analgesia, systemic steroids, antihistamines and application of ice and those with systemic manifestations were initially observed in the intensive care unit. The majority of our patients who had systemic signs received intravenous antivenom with no recorded side-effects.

Discussion

Scorpions are an order of the class Arachnida of the phylum Arthropoda which comprises an estimated 70,000 species. Scorpions vary in size from a few millimetres to 15 cm. They are extremely tolerant of heat but can also live in colder settings and at altitudes of more than 14,000 feet in the Andes(4).

Scorpion venom is species-specific and entails complex mixtures of short neurotoxic proteins, free amino acids, serotonin, hyaluronidase and various enzymes that block ion channels(2).

The clinical manifestations due to scorpion stings are believed to be primari1y due to complex interaction between sympathetic and parasympathetic stimulation, characterized by transient cholinergic (vomiting, sweating, bradycardia, priapism in males, ventricular premature contraction, salivation and hypo-tension) and prolonged sympathetic stimulation (hypertension, tachycardia, pulmonary edema, cool extremities and shock)(5). Central nervous system (CNS) effects commonly include confusion, agitation, ataxia, and myoclonic and dystonic movements (''the restless child with roving eyes'')(4).

The highest record of scorpion stings in our study was in the summer period (60%), which is consistent with a finding found in another study in the same region(51%)(6).

The majority of patients experience no more than localised pain(6,7). Other local effects include redness, tenderness, numbness, paraesthesia and oedema(8,9). Severe systemic signs of envenomation were recorded in 32% in our study in comparison to 35% and 29.4% found in other studies(10,11).

In a study by Radmanesh in Iran, a single species of scorpions (Hemiscorpius lepturus) was found to be the only scorpion with related cutaneous findings causing a wide range of skin manifestations such as erythema, purpuric changes, bullae, necrosis, and ulcers(12), which could be specific to this particular species endemic in that region. In our study a neonate sustained a significant necrotising fasciitis of his chest although significant skin involvement was not mentioned before in different studies carried out in our region in the period from 1985 to 2004, taking into consideration the scorpion species present in the area(6,7,10,13,14).

The management of patients with scorpion stings is still far from ideal as the use of steroids, antihistamines, opiate analgesics and antivenom is still not evidence based and entails a lot of controversy(4,6,7,15).

The severity of scorpion envenomation and the rapid diffusion of inoculated venom require that appropriate treatment should be started as soon as possible after the sting. Although some investigators have questioned the usefulness of antivenom in eliminating cardiovascular manifestations of scorpion stings(16), others consider antivenom to be the only specific treatment for envenomation by scorpion stings(17). In our study, the use of intravenous antivenom quickly reversed the symptoms, and no side effects were seen in the patients studied which is consistent with

findings in other studies(10,17,18).

Conclusion and Recommendations

The severity of the scorpion envenomation was most likely dependent upon the type of offending scorpion, the dose of venom injected by the scorpion and the susceptibility of the individual. We recommend that specific antivenom should be given intravenously in all children who show significant symptoms, and we think that more randomised controlled studies are needed to set out better guidelines for the management of scorpion envenomation.

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Important Medicinal Plants for Treating HIV/AIDS Opportunistic IInfections in Nigeria

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Key words: **opportunistic infections, orthodox, medicinal plants, rituals, Nigeria**

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ABSTRACT

Background and objective: There are medicinal plants of interest, which herbal medical practitioners claim are useful in treating infections including HIV/AIDS opportunistic infections like tuberculosis, diarrhoea, and others. The study aimed to highlight important herbs used in treating and/or preventing infections including HIV/AIDS opportunistic infections in Nigeria. The study identified limitations to the advancement of traditional medicine and ways forward. This was necessary now that most countries are encouraging acceptable and affordable local technologies in the prevention and/or treatment of diseases including HIV opportunistic infections.

Methods: To prepare this document, the author underwent six months apprenticeship on the use of herbs from three renowned traditional healers. Data were gathered through literature review, interviews and observations made during participation in treatment of patients. Ways forward in practice of traditional medicine were emphasized during the study.

Findings: Knowledge of mode of transmission of infections including HIV was poor. Out of 56 patients studied, only 6 (10.7%) mentioned two modes of HIV transmission, the rest 50 (89.3%), including the three traditional healers, had wrong knowledge of HIV transmission.
Patronage for traditional medicine especially among youths was low. Out of 56 cases treated 18 (32.1%) persons were youths, the rest were middle age and elderly persons.

Conclusion: Though patronage for traditional treatment was low, traditional medicine proved effective for augmenting unaffordable and inaccessible orthodox medicines in Abia State, Nigeria.

Introduction

Nigeria is a large country with numerous rich natural medicinal plants and human resources[1]. Nigeria has immense potential in the area of using preparations from these plants to complement what the western world offers in treatment and/or prevention of infections including HIV/AIDS opportunistic infections.

About 15 percent of flowering plants in Nigeria have some medicinal properties. In Abia State of Nigeria, there are about 3,000 medicinal plant species for treating different diseases including opportunistic infections[2]. Over 70 million Nigerians depend on preparations from them in the cure of diseases[3]. Though treatment of HIV/AIDS opportunistic infections like pneumonia, diarrhoea, tuberculosis, and others \, was targeted, treatment of other health problems of interest was also included.

Currently, there is a very high demand for traditional treatment for infections among the middle aged and the elderly in developing countries including Nigeria[4, 5]. It is now an important component of health care services in the rural areas, and will continue to be because of the inaccessibility and un-affordability of health care services including anti-retroviral drugs[6]. It is clear that not many people, including those living positively with HIV/AIDS can afford drugs[7,8]. Therefore, to move indigenous treatment forward, there is need to incorporate new knowledge, technologies and techniques in the effective treatment of opportunistic infections[9, 10,11]. One problem of herbal medicine is lack of documentation[12]. This lack of documentation has been shown to be the main cause of poor patronage and practice of traditional medicine[13,14,15] yet studies have identified medicinal plants as the main stay of pharmacotherapy[16,17,18] and basic drugs like aspirin, reserpine and others are all derived from plants[19,20 21,22]. The question is, to what extent is traditional medicine used in treating and/or preventing infections including HIV opportunistic infections?

Objectives of the study include:

•to document medicinal plants of importance for treating and/or preventing infections including HIV opportunistic infections

•to identify limitations in practice of traditional medicine and/or treatment of infections so as to note ways forward.

Methodology

In preparing materials for this work, the author underwent six months of apprenticeship in herbal medicine under three renowned traditional healers. As a result of some initiations, she participated in the treatment of patients and skills for clairvoyance and clairaudience with medicinal plants were developed. This orientation enhanced skills to identify specific curative properties of some plant species. From this perspective, much of the information contained in this paper has not been documented elsewhere. As such, only information, which an initiate can reveal without committing serious indiscretion, has been provided.

Data was collected through review of relevant literature, interview guide

and observations made during the study. Interview guides for collecting information from patients and traditional healers contained structured and unstructured questions.

Results

During the study, the author participated in treatment of 56 patients comprising 38 (67.9%) males and 18 (32.1%) females who came down with various ailments including malaria, typhoid, diarrhoea, boils, productive cough and others. Most of these cases were treated with assorted herbs suspected to prevent or treat such ailments.

Limitations observed during study:

The study noted technical, social, logistic and financial limitations that affected setting up, practice, diagnosis and management of cases. Some of the limitations observed are discussed below:

Lack of proper documentation:

A major problem of traditional medicine noted during the fieldwork was lack of documentation. Elderly persons were mainly the practitioners of this knowledge. They passed on knowledge through word of mouth and rituals in accordance with their ethical codes. Specifically, the study noted poor scientific research and/or documentation of the taxonomy of medicinal plants used in treating and/or preventing diseases.

Ignorance and cultural attitudes:

There was a general lack of knowledge on mode of transmission of infections including HIV. Out of the 56 patients studied, only 6 (10.7%) mentioned two modes of HIV transmission (sexual intercourse and blood transfusion) the rest 50 (89.3%), as well as the three traditional healers, viewed HIV infection as a curse from God for violating sexual norm and also as witchcraft from enemies. This lack of knowledge influenced the healers' attitude and method of treatment. Most healers used bloodletting as an essential method of treating most acute infections including HIV/AIDS. As a result, no treatment was termed complete without bloodletting, a practice that could expose individuals to blood transmitted infections.

During treatment of any disease, objects such as dry bones, stones, shells, and other items believed to boost potency of herbs were freely displayed. The belief is that the more the number of objects displayed, the more acute the illness and the more several methods are employed during treatment.

Further finding showed that culturally, individuals treated for acute infections including opportunistic infections were not allowed to consume items like alcohol, sugar, coffee, tobacco, crab, snail, refrigerated fish and milk. Consuming these items was believed to delay recovery.

Rather, consumption of items like pepper, ginger, and others, which acted as bio-assimilating agents, was encouraged because of the assumption that eating them would speed up digestion and assimilation of food for quicker recovery.

Literacy level of healers:

None of the healers studied had formal education. The study noted poor hygienic conditions of environments under which most treatments took place. Animal blood, feathers, cloth, and other items, characterized the environments. Also rainwater stored in partially closed clay pots was mainly used to prepare most herbs. This practice is capable of exposing users to water borne diseases.

Inadequate amenities and technical skill:

Three methods, fermentation, boiling and burning of herbs were commonly used for preparation and preservation of herbs. Most concoctions used for treating infections were fermented in partially closed clay pots. Fermentation method was used more than other methods because it was considered cheaper and easier to practice.

Further findings showed that healers lacked scientific techniques for diagnosing most diseases before treatment. The common practice was that healers diagnosed diseases mainly by physical examination and consultation of oracles. The study observed that diseases with similar symptoms were treated with common herbs. This formed the basis for mixing assorted herbs during treatment. In effect, a single plant was used for treating several diseases.

The most widespread technique for diagnosis is the 'Njagbu Aja' (bare foot method), where patients, irrespective of their health conditions, must be barefooted during treatment to enable healers to receive inspiration from oracles on the right diagnosis and treatment. Healers claimed that 'Njagbu Aja' technique, assisted them in providing.

Further observation showed that traditional medicine is still practiced in a generalist form. A healer specializes in several techniques including bandaging, fracture management, treatment of infectious diseases and others.

Scarcity of medicinal plants:

Medicinal plants were harvested from nearby bushes. As a result, some herbs were extremely rare or even extinct and the few available ones were excessively exploited. Also noted were frequent disturbances of most bushes where medicinal plants were grown because they were also used as farmlands.

Insufficient patronage:

Patronage to traditional medicine was low, especially among youths. Throughout the period of study, only 18 (32.1%) persons below the age of 30 years out of the 56 cases treated were youths. The rest were elderly persons 30 years and above.

Table 1: Reasons for poor patronage of traditional medicine

Reasons N=59	Response category
Apprentices live and serve healers for a period approximating master/ servant relationship.	41 (69.5%)
Expensive and superfluous items like goat, wine, and others are what healers charge apprentices.	23 (39%)
Fear of associating with chaotic environments where blood, feathers, and other odds and ends are displayed.	35 (59.3 %)
Unaffordable prices apprentices pay to healers.	41 (69.5%)
Fear of initiations for self-purification and secrecy.	15 (25.4%)
Religious prejudice against traditional medicine.	18 (30.5%)

Reasons for poor patronage were explored from patients and the three traditional healers. Reasons they proffered are contained in Table 1.

Perceived properties of medicinal plants and/or herbs:

Findings showed that most medicinal plants served dual purposes, as food items and as medicinal plants for treating diseases. For example, the study noted that paw-paw, banana, mango, bush cane, guava, lime, and others, which are food items, were also used in treating diseases like typhoid, malaria and others.

Findings showed that herbs were used for two purpose;, rituals and medications. Herbs for rituals were mostly used during sacrifices and initiations. Their inclusion was believed to ward off evil spirits and accelerate a patient's recovery rate.

Code of conduct:

One advantage of traditional medicine in Abia State is that its codes of conduct encouraged positive behavior change for initiates. Initiates are expected to be temperate in eating, drinking, dressing, and also in controlling passions as well as free from anger, envy, bitter feelings and similar vices. It is to this end that during initiations, initiates must swallow the heart of a lamb, as a symbol of meekness. This practice of being meek contributes to the difficulty an initiate has in carelessly releasing certain classes of information on herbal medicine to the uninitiated.

Medicinal plants used for treating diseases:

Findings showed that for most treatments, several medicinal plants were mixed for treatment. Scarcely was a single plant used for any treatment. Healers had uniform dosages for treatment. Most herbs for treatment were usually boiled with water except for serious infections like venereal diseases that were boiled with palm wine. In each case, mixtures were taken half a glass three times a day until the problem is relieved.

However, dosage for medicinal plants, whose method of processing is either by squeezing or grinding, is a full glass twice a day, preferably, morning and evening.

For storage and preservation problems, some medicinal plants, especially roots and leaves were dried, ground and then mixed with cold water before use.

The number of herbs used in treating an infection determines its severity. Highest numbers of herbs were used to treat diseases like malaria, typhoid fever, tuberculosis, diarrhea and infertility because they constitute common health problems of people living positively with HIV/AIDS. Table 2 contains a list of medicinal plants, the ailments they prevent and their methods of preparation.

	Plants used	Nature of the plant	Local name	Common name	Botanical name	Parts used	Method of prepara-tion
Ailment	Paw paw	Tree	Okworo bekee	Paw paw	Carica pa-paya L.	Leaves (dried)	Boiling
Malaria	Lime	Tree	Epentiti	Lime	Citrus medica	Leaves	Boiling
	Yarrow (neem) yar-row	Tree	Ocho-onye ogwo	Yarrow (neem)	Azadiracta indica	Leaves and bark	Boiling
	Palm	Tree	Nkwu odim	Palm tree	Elaeise Guineemse Tenera /dura	Bark	Boiling
	-	Tree	Mmimi ohia	-	Dennetia tripetala	Root and leaves	Boiling or drying and grinding

Ailment	Plants used	Nature of the plant	Local name	Common name	Botanical name	Parts used	Method of preparation
	-	Tree	Uzi	-	Enantia chloranta	Bark	Boiling
	Fever plant	Shrub	Nchu-anwu	Fever plant	Ocimum gratissu-mum	Leaves	Squeezing and boiling
	Guava	Tree	Ugwuoba	Guava	Psidium guajava L.	Leaves	Boiling
	Mango (lo-cal species)	Tree	Opioro or manguru	Mango	Mangifera indica	Leaves	Boiling
	Banana	Tree	Unere	Banana	Musa spp	Leaves (dried)	Boiling
	-	Tree	Uvuru-ilu	-	Nauclea didirichii	roots	Boiling or drying and grinding
Typhoid	-	Tree	Mmimi ohia	-	Dennetia tripetala	Leaves and root	Boiling or drying and grinding
	Paw paw	Tree	Okworo bekee	Paw paw	Carica pa-paya L.	Leaves and root	Squeezing
	Lime	Tree	Epentiti	Lime	Citrus medica	Leaves and fruit	Boiling
	Guava	Tree	Ugwuoba	Guava	Psidium guajava L.	Leaves	Boiling
	Banana	Tree	Unere	Banana	Musa spp	Leaves (dried)	Boiling
	Mango (lo-cal species)	Tree	Opioro or manguru	Mango	Mangifera indica	Leaves	Boiling
	Sugar, cane	Tree	Mgboko	Sugar, cane	Saccharum officinarun	Stem and leaves (dried)	Crushing and boiling
	-	Tree	Nti-ele	-	Emilia son-chifolia DC	Leaves	Squeezing
	Fever plant	Shrub	Nchu-anwu	Fever plant	Ocimum gratissu-mum	Leaves	Squeezing and boiling
	Ginger	Herb	Ose-ala	Ginger	Gingei offi-nale zingib-eracea	Tuber (rhi-zome)	Crush-ing and squeezing
	Garlic	Herb	Ayo	Garlic	Allium savi-tum	Tuber	Pounding
	Fluted pum-kin	Shrub	Ugu	Fluted pum-kin	Curumbita moshata	Leaves	Squeezing
	-	Tree	Opi-oku-koro	-	Fiscus cap-ensis	Leaves	Boiling
Anemia	Fluted pum-kin	Shrub	Ugu	Fluted pum-kin	Cucurbita moshata	Leaves	Squeezing
	Paw paw	Tree	Okworo-be-kee	Paw paw	Caricapa-paya L.	Leaves	Squeezing
	Bush cane	Tree	Opete	Bush cane	Costus afer ker	roots	Boiling
	-	Tree	Avosi	-	Baphia nitida	roots	Boiling

Ailment	Plants used	Nature of the plant	Local name	Common name	Botanical name	Parts used	Method of preparation
	-	Tree	Ariufu	-	Newbouldia laevis	Leaves and root	Boiling
	Hemor-rhage plant	Herb	uranjila	Hemor-rhage plant	Aspilia (africana) latifolia oliv. Et Hiern	Leaves and flower	Squeezing
		Tree	Egbu	-	Alstonia boonei De wild	Bark	Boiling
	Palm	Tree	Nkwu odim	Palm	Elaeise Guineerse	Leaves and bark	Squeezing
		Tree	Oduna mk-pata	-	Dracaena arborea	Leaves	Squeezing
		Tree	Avosi	-	Baphia nitida	roots	Boiling
		Tree	Akaekpo or mpi-anya or mgbuobara	-	Jatrofa cauca	Sap from the leaves and stem	Extraction
Cold, fever and sei-zures	-	Shrub	Ebube egu	-	Sansevieria liberica Ger et Lab	Roots and leaves	Boiling burning and inhal-ing
	-	Tree	Uda	-	Xylopia aethiopica (Duna) A. Rich	Seed, leaves and fruit	Crushing and boiling
	-	Shrub	Nti-ele	-	Emilia son-chifolia D.C	Leaves	Boiling
	Hemor-rhage plant	Herb	Uranjila	Hemor-rhage plant	Aspilia (africana) latifolia oliv. Et Hiern	Leaves	Boiling
Bronchitis and dysen-tery	-	Tree	Uda	-	Xylopia aethiopica (Duna) A. Rich	Fruit and bark	Boiling
	Paw paw	Tree	Okworo bekee	Paw paw	Carica pa-paya L.	Leaves	Squeezing
Infertility	-	Tree	Uko	-	Fagara zan-thoxylodes	Leaves , bark	Boiling
	Bush peper	Herb	Uziza	Bush peper	Piper guineense schum et thonn	Leaves seed, stem	Boiling
	Paw paw	Tree	Okworo – bekee	Paw paw	Carica pa-paya L.	Leaves	Squeezing
	Lime	Tree	Epentiti	Lime	Citrus medica	Fruit	Squeezing
	Sugar cane	Tree	Mgboko	Sugar cane	Sacharum officinarum	stem	Crushing/ boiling

Ailment	Plants used	Nature of the plant	Local name	Common name	Botanical name	Parts used	Method of preparation
	-	Tree	Akaekpo/ mpi-Anya/ mgbuobara	-	Jatrofo cauca	Seed	Crushing/ boiling
Mental problem	-	Tree	Ngbugba Ogwu	-	Rauwalfia spp	Roots	Boiling
Chancroid, syphilis, gonorrhea, herpes simplex, and vaginitis	-	Tree	Otiri	-	Harungana madagaska Riensis	Roots	Boiling/ grinding
	-	Tree	Manu-ukwu	-	Anthoclatra Dijalonensis	Roots	Boiling, grinding
	Christmas bush	Tree	Uvuvo	Christmas bush	Alchornea-cordifolia (schum et. Thon) muell Arg.	Leaves	Boiling
	-	Herb	Aka-ato	-	Hilleria Latifolia H. watt	Leaves	Boiling
Muscle wasting	-	Herb	Akoro	-	Selaginela spp	Leaves and twigs	Grinding and Rubbing (external use only)
	-	Tree	Avosi	-	Baphia nitida	Roots	Boiling
	Palm tree	Tree	Nkwo odim	Palm tree	Elasise Guinease	Leaves	Grinding and Rubbing
	-	Herb	Onuog-bugbo	-	Lcacina spp	Roots	Grinding and Rubbing (external use only)
	-	Herb	Ukukuru	-	Stepulia setigera	Roots	Grinding and Rubbing (external use only)

DISCUSSION

The idea of healers mixing assorted herbs to cure diseases irrespective of their contraindications, and notwithstanding symptoms of diseases, implies that traditional medicine as it is currently practiced, lacks scientific backing and calls for research to investigate the toxic levels of herbs before mixing them for treatment. This is necessary to assist researchers to note medicinal properties of plants in preparation of drugs for treating common ailments.

The fact that blood letting was a common method of treating all diseases point to poor knowledge of mode of transmission of infections including HIV and suggests the extent to which individuals are exposed to HIV infection. Findings on poor knowledge of mode of transmission of infections was also confirmed by the studies by[10,11,15]. This poor knowledge calls for health education approaches on mode of infections, prevention and treatment. Non-print information systems such as radio, video, role-plays, story telling, town criers and television-based education could be useful.

The fact that factors such as lack of documentation, scarcity of medicinal plants, poor patronage, unhygienic environment, inadequate amenities and technical skills, ignorance and others constrained the practice of traditional medicine, suggest that

traditional medicine lacks sustainability. Attempts to ensure sustainability of traditional medicine would be to adopt the strategy of empowering traditional healers themselves to form a strong force to impress on Government to include in National Health Policies, planting of medicinal plants. This might be addressed to some extent by integrating traditional medicine into the existing health care structure. This would make it easier to sustain this policy.

Indeed successful programmes appeared to be those whose sustainability is community driven and controlled by indigenous researchers. Also the fact that traditional medicine is not properly documented showed that it has not received the supposed attention it deserves and as such, available information on traditional medicine in this regard is less than what the demand should warrant. Findings on lack of documentation of traditional medicine agrees with that of [20]. Treating only 56 patients for the period of 6 months study, points to poor patronage of traditional medicine considering the fact that the population of Abia State is more than 17 million. Poor patronage of indigenous treatments was also confirmed by[8]. However, findings suggest further research is required on reasons for poor patronage especially now that most developing countries are resorting to local technologies due to high cost of orthodox drugs including anti-retroviral drugs.

Availability of basic amenities like potable water, electricity, good food, roads, and environment cannot be taken for granted during treatment of infections including opportunistic infections in the rural areas. These basic amenities are needed to improve the unhygienic conditions under which most infections were treated during the study. This is necessary because rainwater was used to ferment herbs in partially opened pots that were scarcely washed. These dirty pots could contain harmful microorganisms capable of exposing users to other infections.

Conclusion and Recommendations

Since a good number of individuals who are in contact with traditional medicine had poor knowledge of mode of transmission of infections, procedures should be instituted for the training and re-training of traditional healers to enhance their level of education, facilitate their professionalism and improve collaboration with other healthcare workers in the management and prevention of diseases including HIV/AIDS opportunistic infections.

There is lack of sustainability for traditional medical practice in Nigeria. This is because traditional medicine depended on medicinal plants harvested from frequently disturbed ecosystems that are used as farmland. More so, mode of harvesting medicinal plants is not calculated to ensure their sustainability. Little or no conscious effort is made to cultivate medicinal plants for future use.

Increasing scarcity of medicinal plants calls for efforts and strategies that would incorporate Ministry of Agriculture, Extension Agriculture Stations and others in the communities in planting of medicinal plants to ensure sustainability. It is felt that treatment/prevention programmes are not likely to yield greater results if planting of medicinal plants is handled in isolation. These Government offices could serve as information dissemination centers for anti-deforestation campaigns that would sensitize people at the grassroots level. This process would encourage community involvement in preservation of medicinal plants.

Therefore, for the next decade, the most important strategy to sustain traditional medicine in Nigeria including Abia State would be public awareness and education on preservation of medicinal plants and use of traditional medicine to control diseases.

Therefore, traditional medicine should be incorporated into the existing Primary Health Care system to ensure greater utilization and sustainability so as to reduce demand for unaffordable and inaccessible western treatments. Additionally, intellectual property rights of traditional healers should be recognized and compensated. This would motivate them to give out useful information to interested persons.

Finally, since lack of preservation facilities constituted drawbacks to advancement of traditional medicine it is therefore recommended that adequately equipped laboratories should process and preserve medicinal plants to ensure safe

dosages are necessary.

Acknowledgement

The author is grateful to Professor A.E. Afigbo for his assistance in this study. He critiqued and made immeasurable inputs to this document. I also thank the three Traditional Medicine Practitioners, Ogbonna, James, Okorie, Benjamin and Okorie, Benedict for allowing the author to undergo the study under their guidance. I appreciate their interest in the study. I am grateful to the cases for volunteering to participate in this study. The information they provided gave insight to the study. I am particularly grateful to Abia State Ministry of Agriculture and Natural Resources for their willingness in making available vital documents that assisted during the study. I also thank the Nigerian Institute of Forestry Research, Umuahia for classification of the medicinal plants.

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Demographic Variables of Five Hundred Households in Palosi Village Near Peshawar

Key words: **Palosi village, demographic variables, factors, Peshawar**

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ABSTRACT

Objectives: To determine the demographic variables of the residents of Palosi village near the vicinity of Peshawar.

Material and Methods: A descriptive observational survey was conducted from November 2005 to August 2006 in Palosi village near the vicinity of historical city of Peshawar. Relevant information was recorded on a questionnaire prepared in accordance with the objectives of the study.

Results: Demographic information of a total of 5820 respondents, 2968 (50.99%) males and 2852 (49.01%) females were collected. Sixty percent of the population was adult, in the age range of 15-59 years and 20% were under five. Only 17.40% had qualified primary education or above. The major source of water supply was tube well (77.60%). Sanitation facilities available in hands were: flushes at home (29.60%), surface 55.8%, and open field 14.6%. Percentage of children fully immunized for polio, tuberculosis, diphtheria, tetanus and measles was 44.46%. Healthcare facilities available to the pregnant ladies were lady doctors 5.62%, trained birth attendant 45.62% and Dai 38.75%. Leading causes of morbidity and mortality were: infectious disease 37.26%, cardiovascular diseases 14.52%, pregnancy related causes and complications 7.12%, injuries 4.56%, neoplasm 3.01%; malnutrition disorders 18.08%, poisoning 0.82% and all other diseases 14.52%.

Conclusion: The population of Palosi village comprises adult males and females in their reproductive ages. There is low literacy rate, improper water supply and sanitation facilities. Health care facilities in general and antenatal care to pregnant ladies are not up to the need of the respondents. Immunization coverage is lower because of their social taboos and religious concepts regarding utilization of these services.

Introduction

According to the National Institute of Population Studies (NIPS), Pakistan's estimated population by year 2002 was 145.5 Million, with world ranking in sixth position. Our growth rate was 2.1% and population density of 166 persons per square kilometer. 32.52% comprised urban and the remaining were rural. The population distribution by age and sex was that 43.4% were in age less than 15 years of age, 53.09% between 15-64 years of age and 3.5% above 64 years of age. Population doubling time was 33 years and male to female ratio by 2002 was 108:100. Dramatic social changes have led to rapid urbanization and the emergence of mega-cities. During 1990-2003, Pakistan sustained its historical lead as the most urbanized nation in South Asia, with city dwellers making up 34% of its population1.

A study indicates that the areas that are backward in terms of economic development are also those with low levels of literacy. Rural areas of the province need the greatest attention. An encouraging sign is the general decline in disparities in literacy levels over time 2. Inadequate water and sanitation services adversely affect the health and socioeconomic development of communities. The Water and Sanitation Extension Programme (WASEP) project, was undertaken in selected villages in northern Pakistan between 1997 and 2001. It concluded that children not living in WASEP villages had a 33% higher adjusted odds ratio for having diarrhoea than children living in WASEP villages 3.

Availability of health care and emergency facilities does matter as it becomes a health emergency if it results in an unexpected risk to the health of people or the physical environment in which they live. In peripheral areas where when the magnitude of such an emergency is so severe that it is beyond the capabilities and resources of the local community to manage, it becomes a disaster 4. Vaccination profile of Pakistan shows that by year 2003, 82% of one-year-old children were immunized for tuberculosis, 67% for DPT3 (Diphtheria, tetanus and pneumonia), 69% for polio, 61% for measles. Data for children immunized for hepatitis B vaccine is not available 5. Gender inequality does matter in our part of the world. The prevalent belief is that in rural Pakistan, parents pay attention to feeding male children at the cost of female children 6.

The present study was also designed to study the demographic variables of the residents of Palosi village near the vicinity of Peshawar city.

Methods

TA descriptive observational survey was conducted from November 2005 to August 2006 in Palosi village near the vicinity of the historical city of Peshawar.

A total of 500 houses were selected; demographic information was recorded for 5820 respondents; there was on average ten members per house, living in a conjoined family; 2968 (50.99%) males and 2852(49.01%) females.

Relevant information was recorded on a questionnaire prepared in accordance with the objectives of the study. The questionnaire contained information about age, sex, education, water supply, sanitation facilities, health care facilities in common, special care facilities for women in reproductive ages, leading causes of morbidity and mortality in the respondents, social status, cultural taboos, vaccination facilities and its utilization and housing conditions etc.

Female medical students were selected and they visited the village and filled out the questionnaire from the female respondents in the home. They collected the relevant information from the elders of the family there. Direct questions were asked and the answers were recorded on the questionnaires.

Inclusion criteria was that information should be obtained from the females only, so that correct information regarding , health care facilities in common, special care facilities for women in reproductive ages, leading causes of morbidity and mortality in the respondents, social status, cultural taboos, vaccination facilities and their utilization could be obtained.

Exclusion criteria were that thyey were not to include male respondents as they are often out of home and cannot give correct information for the above mentioned parameters that were selected to be recorded from all respondents that were interviewed.

Similarly data was collected on the provision of guaranteed consent from the interviewers that the information would not be disclosed to anybody and would be kept secret. Nobody was disturbed regarding getting information outside the residential area.

Finally data was analyzed in percentage values and was tabulated to obtain results for discussion.

Results

1- Age range and Sex wise distribution of population of palosi village: Demographic information of 5820 respondents from 500 houses was collected regarding 2968 (50.99%) males and 2852 (49.01%) females. Sixty percent of the population was adult, in the age range of 15-59 years, 20% were under five and 3.98% were in their sixties or above. (Table 1 and 2).

2- Various demographic characteristics of the population: Only 17.40% had qualified primary education or above. Most of the people lived in mud made houses (78.63%). Source of water supply was tube well (77.60%), wells or under surface water (11.60%) etc. Sanitation facilities available to the respondents were: flushes at home (29.60%), surface 55.8%, and open field 14.6%. The majority of the respondents were from the lower social class with income less than 5000/month 53.6 %.(Table No 3).

3- Availability of health care facilities to the respondents: Percentage of children fully immunized for polio, tuberculosis, diphtheria, tetanus and measles was 44.46%. Healthcare facilities available to the pregnant ladies on site were lady doctors 5.62%, trained birth attendants 45.62%, Dai 38.75%, and relatives 10% (Table No 4).

4- Leading causes of morbidity and mortality in the study population of Palosi village: Distribution of leading causes of morbidity and mortality in the respondents were: infectious disease 37.26%, cardiovascular diseases 14.52%, pregnancy related causes and complications 7.12%, injuries 4.56%, neoplasm 3.01%; malnutrition disorders 18.08%, poisoning 0.82% and all other diseases 14.52% (Table No 5)..

Table 1. Sex wise distribution of population of Palosi village (n=5820)

Gender	Number of respondents	Percentage of total %
Males	2968	50.99%
Females	2853	49.01%

Table 2. Age range of the residents of Palosi village (n=5820)

Age range	Number of respondents	Percentage of total %
Below five years	932	16.01%
5-14 years	1630	28%
15-59 years	3026	51.99%
60 or above	232	3.98%

3. Water supply (n=500 houses)

Tube wells	388	77.60%
Wells	58	11.60%
Others like hand pumps etc	54	10.80%

4. Sanitation facilities (n=500 houses)

Flushes	148	29.60%
Surface	279	55.80%
Open fields	73	14.60%

5. Socioeconomic conditions (n=500 houses)

Lower class with income less than 5000/month	**268**	**53.60%**
Middle class with income less than 6-20,000/month	**172**	**34.40%**
Upper class with income more than 20,000/month	**60**	**12%**

Table 4. Availability of health care facilities to the respondents (n=480)

Availability of health care facilities	Number of respondents	Percentage of total %
1. Availability of health care facilities for women in their reproductive ages (n=480).		
Lady doctor	27	5.62%
Trained birth attendant	219	45.62%
Dai	186	38.75%
Relatives	48	10.00%
2. Percentage of children fully immunized for polio, tuberculosis, diphtheria, tetanus and measles		
Fully immunized	1033	44.46%
Not fully immunized	1290	55.53%

Table 5. Leading causes of morbidity and mortality in study population of Palosi village (n=365)

Diseases	Number of respondents	Percentage of total %
Infectious diseases	136	37.26%
Malnutrition diseases	66	18.08%
Cardiovascular diseases	53	14.52%
Complications related to pregnancy	26	7.12%
Injuries	17	4.65%
Neoplasm (cancer)	11	3.01%
Poisons	3	0.83%
All other diseases	53	14.52%

Discussion

Pakistan launched one of the first population control programmes in the 1950s, yet has lagged far behind other countries in effectively implementing or developing its understanding of population programmes. A study concluded 7 that the conflicts in these areas are directly related to the larger policy context in which they have evolved, and without addressing the latter, the population programme will remain victim to deep-rooted structural problems. In our study we also observed that the population of the area studies comprises adult males and females in their reproductive ages which signifies a stress on the population growth and increasing population is not less than disaster. Depressive disorders are a serious public health concern in the low- and middle-income countries, predicted to become the most common cause of disability by the year 2020 8.

The present study comprised 2968 (50.99%) males and 2852 (49.01%) females. Findings in the areas like health, education and special services show a wide range of gender disparity. Various studies have shown that gender difference does matter in the delivery of health care services 9-11. In countries with large gender

disparities, health status especially in the rural areas, and investments in local communities mitigate the gender bias observed in intra-household resource allocations 12.

Sources of water supply to the respondents were: tube well (77.60%), wells or under surface water (11.60%). The 21st century will open with one of the most fundamental conditions of human development unmet: universal access to basic water services. More than a billion people in the developing world lack safe drinking water 13. Another study reports a reduction in child mortality over the period 1986-96, attributed to clean water supply, good hygienic practices and education 14.

Families should be educated about public health measures such as improved ventilation in houses, hygienic practices, sanitary disposal of wastes after cleaning of the sewers, storage and boiling of water, and home management of diarrhoea. In the present study sanitation facilities available were: flushes at home (29.60%), surface 55.8%, and open field 14.6%. It is of utmost importance to design policies by developing the understanding of behaviours and health care utilization trends especially for sanitation and clean water supply at the district levels and to give enough credence to all the determinants in the background 15-16.

In our study the percentage of children fully immunized for polio, tuberculosis, diphtheria, tetanus and measles was 44.46%.To improve awareness and knowledge of mothers regarding vaccine preventable diseases and the immunization status of children under five, through health education messages, the Aga Khan University survey concluded that the health education messages significantly increased the vaccination status of children under 5 in the intervention area17. Again gender difference does matter. Girls have poorer access to health services than boys: in Bombay boys have immunization rates 16% higher than girls 18.

We observed that health care facilities in general and antenatal care to pregnant ladies are not up to the need of the respondents. An estimated 400,000 infant and 16,500 maternal deaths occur annually in Pakistan. These translate into an infant mortality rate and maternal mortality ratio that should be unacceptable to any state. Disease states including communicable diseases and reproductive health (RH) problems, which are largely preventable account for over 50% of the disease burden 19. Maternal mortality, infant mortality and neonatal mortality are high in Pakistan where maternal health services depend upon traditional birth attendants (TBAs) 20 and the same belief was observed in the present study as well. The leading causes of morbidity and mortality in our study were communicable infectious diseases and cardiovascular diseases. . Within this context the NGO Heartfile has worked to bring about changes at a health policy and systems level through creation of a policy-level institutional mechanism for systems strengthening and a national health reform agenda based on systems strengthening and an intersectoral approach to health21.

Conclusion

Population of Palosi village comprises adult males and females in their reproductive ages. There is a low literacy rate, improper water supply and sanitation facilities. Health care facilities in general and antenatal care to pregnant ladies are not up to the need of the respondents. Immunization coverage is lower because of their social taboos and religious concepts regarding utilization of these services.

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