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**Chief Editor:**

A. Abyad MD,  
MPH, AGSF, AFCHS

**Editorial Office:**

Abyad Medical Center &  
Middle East Longevity Institute  
Azmi Street, Abdo Center  
PO BOX 618  
Tripoli, Lebanon  
P + (961) 6 443684  
F + (961) 6 443685  
E editor@me-jn.com

**Publisher:**

Ms Lesley Pocock

**Publishing Office:**

medi+WORLD International  
11 Colston Avenue,  
Sherbrooke Victoria 3789, Australia  
P + (613) 9005 9847  
F + (613) 9012 5857  
E lesleypocock@mediworld.com.au

**Editorial Enquiries:**

aabyad@cyberia.net.lb

**Advertising Enquiries:**

lesleypocock@mediworld.com.au

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## Editorial

- 2 Chief Editor - A. Abyad

## Original Contribution and Clinical Investigation

- 3 Colonic Preparation for Colonoscopy at King Hussein Hospital; Rating, Grade, Effectiveness, and Safety  
*Lina Hamtini*
- 8 Caregiving and the Life Course: Quality of Social Work/Social Nursing Service in Tehran, Iran  
*Mohammad Taghi Sheykhi*

## Community Nursing

- 15 Causes of Poor Vision among School Children and the Importance of Screening Programs in Jordan  
*Ismat Ereifej*
- 19 Hearing assessment in the newborn  
*Muna Kavar, Sufyan Al Ruode*

- 22 Journey of Hope

## Education and Training

- 24 CME case history and interactive quiz

## FROM THE EDITOR



**Abdulrazak Abyad**  
MD, MPH, AGSF, AFCHS  
(Chief Editor)

**Editorial office:**

Abyad Medical Center &  
Middle East Longevity Institute  
Azmi Street, Abdo Center  
PO BOX 618  
Tripoli, Lebanon  
P + (961) 6 443684  
F + (961) 6 443685  
E [aabyad@cyberia.net.lb](mailto:aabyad@cyberia.net.lb)  
W [www.amc-lb.com](http://www.amc-lb.com)

**Publishing Office:**

medi+WORLD International  
11 Colston Avenue  
Sherbrooke 3789  
Australia  
E [admin@mediworld.com.au](mailto:admin@mediworld.com.au)  
W [www.me-jn.com](http://www.me-jn.com)

This is the second issue this year and is rich with high quality papers. A paper from Iran tries to explore and reflect an image of social work in Iran. As the socio-economic structure of the country is changing, and at the same time ageing of population is progressing, timely implementation of social work service should be of priority, and well practiced. Due to the medical and technological advancements, people have longer life expectancy, resulting in higher dependency upon social work services of different kinds. So, increasing demand for health care services for the seniors, and simultaneously the youth with changing attitudes and expectations, and their emerging problems, and the like; all need social work services with especial reference to larger cities such as Tehran.

A prospective study was done in Queen Alia Military Hospital during the period between July 2009 and July 2011 to study causes of Poor Vision among School Children. A total number of 1046 children aged between 6-14 years were enrolled in the study. Two sampling methods were used. First, randomly selected patients attending the pediatric clinic for non ophthalmologic complaints were referred to the ophthalmology clinic. The authors concluded that the prevalence of refractive errors is high enough to justify a regular school visual acuity screening program as poor vision may affect children's educational development.

A second study from Prince Ali Hospital during 6 months period between September and February 2010-2011 screened newborns for hearing. The total number of newborn examined was 408. The authors concluded that hearing loss is important to be diagnosed early for normal speech development .if diagnosed before 6 months of age.

A paper from King Hussein Hospital. Royal Medical Services looked at Colonic Preparation for Colonoscopy at King Hussein Hospital. The objectives were to find out the effectiveness, quality and safety of Colonic preparation for doing colonoscopy. A total of 1000 colonoscopies were included in the study. The author concluded that Colonic preparation at King Hussein Medical Hospital; is acceptable and effective for doing colonoscopies in most of the patients, and is rarely associated with complications. Patients' education is related to adequacy and grade of colonic preparation.

This month we also highlight the Journey of Hope - a Kuwaiti initiative to highlight the needs and rights of disabled children in the region and the world.

Finally we present a comprehensive case history with CME quiz on the topic of palliative care and pain relief in those dying of metastatic cancer.

# COLONIC PREPARATION FOR COLONOSCOPY AT KING HUSSEIN HOSPITAL; RATING, GRADE, EFFECTIVENESS, AND SAFETY

## Abstract

**Objective:** To find out the effectiveness, quality and safety of Colonic preparation for doing colonoscopy, at Gastroenterology Unit of King Hussein Hospital.

### Material and Methods:

A prospective study of colonic preparation of the colonoscopies done at King Hussein Hospital of King Hussein Medical Center, Royal Medical Services in Amman, the capital of Jordan, over an 8 month period. Data was collected in the form of the number of patients, age, gender, reason for doing the procedure, endoscopic findings, and any immediate complication. For all patients, colonic preparation was done using Biscodyl and Macrogel 4000. Almost all colonoscopies were done with sedation using pethidine and midazolam intravenously.

**Results:** A total of 1000 colonoscopies were included in the study. Forty two percent of patients were aged less than 50 years. The main indications for colonoscopies were rectal bleeding (35.8 %), constipation (17%), and diarrhea in 12%. In 940 (94%) patients, the procedure was completed up to caecum. Normal colonoscopy was reported in 81.5% of patients. The most common abnormal findings were colonic polyps in 24%. Colonic preparation was adequate in most of the patients (92 %) and inadequate in 80 (8%) cases. For those with adequate preparation, the grade of adequacy was excellent in 285 (31 %), good in 379 (42 %) and fair in 256 (27 %). Education is significantly (P-Value < 0.05) related to the

adequacy and grade of colonic preparation. Fifty five (5.5%) patients had complications related to the preparation in the form of abdominal pain (34 patients), general weakness (23 patients), and headache (12 patients). Two (0.2%) patients had major complications related to the procedure (colonoscopy) in the form of bleeding that did not necessitate blood transfusion (2 patients), and colonic perforation in one patient.

**Conclusions:** Colonic preparation at King Hussein Medical Hospital; is acceptable and effective for doing colonoscopies in most of the patients, and is rarely associated with complications. Patient education is related to adequacy and grade of colonic preparation.

**Keywords:** Colonic preparation, Rating, Grade, Colonoscopy, Safety, effectiveness.

**Hamtni Lina**

Staff Nurse, Head of Nurses,  
Department of Nursing  
(Gastroenterology Unit),  
King Hussein Hospital,  
Royal Medical Services, Amman,  
Jordan

### Correspondence:

Lina Hamtni RN  
Gastroenterology Unit  
King Hussein Hospital  
Phone: +962 777260965  
**Email:** linahamtni@yahoo.com

## Introduction

Gastrointestinal disorders are extremely common in the general population. (1,2,3) The diagnosis of colonic diseases by classical symptoms is often incorrect. (4, 5) Colonoscopy is the investigation of choice for screening individuals at risk for early cancerous or premalignant lesions, thereby helping to minimize the impact of cancer on communities. (6)

Colonoscopy was introduced in the 1960's and it became a very useful method in the diagnosis and therapy of colonic diseases. (7) A colonoscopy is very helpful in investigating gastrointestinal bleeding, unexplained changes in bowel habit or suspicion of colon cancer. A colonoscopy is often used to help in diagnosing inflammatory bowel disease. In older patients an unexplained drop in hemoglobin (a sign of anemia) is an indication to do a colonoscopy as this may be due to colon cancer. (8)

Due to the high mortality associated with colon cancer and the high effectiveness and low risks associated with colonoscopy, it is now also becoming a routine screening test in some medical facilities for people 50 years of age or older. (9)

As with all medical procedures, there are risks associated with a colonoscopy. One very common after-effect from the colonoscopy procedure is a bout of flatulence and minor wind pain caused by air blown into the colon during the procedure. After the colonoscopy, the patient will be drowsy and will require recovery time to let the sedative wear off. Most facilities require that you have a person with you to help get you home afterwards. Post colonoscopy bleeding, infection, and sedation reactions are also possible side effects. (10)

A colonoscopy usually requires patient sedation and has a low (0.2%) risk of serious complications usually associated with an allergic reaction or breathing difficulties. However a colonoscopy is performed under a controlled environment and so these possibilities can be managed by an experienced medical team. (11)

We studied the colonic preparation for doing the colonoscopies in our gastroenterology unit at King Hussein Medical Center to determine the effectiveness, safety and outcome of the colonic preparation. This is the first report on this service in Jordan.

## Patients and Methods

A prospective evaluation of the colonic preparations service was done at King Hussein Hospital. All patients aged 16 years or more who underwent colonoscopy during the period between January and August 2011 were studied. Data was collected in form of the number of patients, age, sex, reason for doing the procedure, endoscopic findings, and any complication reported.

All patients provided written informed consent. The study was approved by the institutional review boards of the Royal Medical Services and was performed in accordance with Good Clinical Practice guidelines as defined by the Jordanian Health Association.

Colonic preparation before all colonoscopic examinations called for the administration of the following; Dulcolax (Biscodyl 5mg tab) and Fortrans (Macrogel 4000).

When a doctor plans to do colonoscopy for a patient, it is now the role of the nurse in the gastroenterology unit to discuss in detail with the patient how he/she will prepare his/her colon for good visualization of the mucosa to clarify any lesion there. Our recommendation at King Hussein Hospital is to start preparation one day prior to colonoscopy by drinking only fluid and to take 5 tablets of Biscodyl at 3 pm followed by 4 packs of Macrogel, each pack dissolved with one liter of water over one hour then at 7pm another 5 tablets of Biscodyl. On the day of colonoscopy the patient can drink only clear fluid.

The endoscopy room set up, the instruments, and the number of nursing staff at our gastroenterology unit are the same for all the patients. Uni-stiffness endoscopes were used (CF-240AI/AL or CF-260AI; Olympus Optical, Tokyo, Japan, or Pentax EC 3840L).

All patients were evaluated well before, during and post the procedure so that the doctors and nurses can take care and will be ready for dealing with any complication.

Conscious sedation with midazolam 2.5 mg (Dormicum; Roche Pharmaceuticals, Basel, Switzerland) and pethidine 25 mg was provided at the patients' request. Sedation was administered via routine, continuous venous access. Intravenous hyoscine butylbromide (Buscopan; Boehringer Ingelheim International, Ingelheim am Rhein, Germany) was used as an antispasmodic agent if the patient had no contraindications (e.g. prostatic hyperplasia requiring therapy, narrow-angle glaucoma, and tachyarrhythmia) when needed.

Assessment of the patient's colonic preparation was made; first, rating it as inadequate when residual stool prevented proper assessment of the mucosa, and therefore we cancel the procedure and assessed as adequate when the faeces can be partly aspirated and the mucosa could then be examined. Secondly when patient's colonic preparation is adequate, then we graded the preparation as excellent when the colon contained no stool or water, good when the colon contained no stool but some water that did not affect visualization of the mucosa, and fair when the colon contained fluid that was not clear which partially affected visualization of the mucosa.

The examination was considered complete when the caecum was reached. Entering the terminal ileum is not needed in all patients, unless indicated in cases of chronic diarrhea, or suspicion of terminal ileum lesions.

We subdivided the patients into two groups according to education and colonic preparation rating and quality ranking to study the correlation between patients' education with the quality ranking of colonic preparation. The percentages (%) for correlations were calculated by dividing the number of patients from each education group with every preparation rating or quality ranking over the total number of patients of the same education group.

Chi-Square was used for statistical analysis. P- Value was considered significant if less than 0.05.

## Results

Between January and August 2011; 1000 colonoscopies were performed on patients aged 16 years or more. The mean age of patients was 51.5 years (range 16-86). Forty two percent of patients were aged less than 50. Women had 370 (37%), and men 630 (63%) examinations. The vast majority of the patients were healthy; 80 (8%) of patients had one or more chronic diseases for example; 51 (5.1%) patients had



Characteristics	Patients (n = 1000)	%
<b>Age</b>		
Mean age (years)	51.5	
Age range	16-86	
< 30 Years	70	7
31-49 Years	350	35
> 49 Years	580	58
<b>Gender</b>		
Men	630	63
Women	370	37
<b>Education</b>		
Illiterate	80	8
School	630	63
University	290	29
<b>Referral from</b>		
Gastroenterology clinic (Outpatients)	920	92
Medical or surgical ward (Inpatients)	80	8
<b>Sedation</b>		
Conscious sedation (Midazolam (3mg IV) + pethidine (25mg IV))	830	83
No sedation	170	17
<b>Limit of colonoscopy</b>		
Incomplete colonoscopy (inability to reach caecum)	60	6
Complete colonoscopy (Up to caecum)	940	94
Complete colonoscopy with ileoscopy (Up to terminal ileum)	620	62
<b>Colonoscopic interventions</b>		
Biopsy performed	310	31
Polypectomy performed	70	7
Dilatation of stricture	1	0.1

**Table 1: Patient characteristics, and colonoscopic performance parameters**

had ischemic heart disease. Nine hundred and twenty (92%) endoscopies were done for patients referred from the gastroenterology clinic as outpatients and 80 (8 %) for patients who were already in hospital.

The main indications for colonoscopies were rectal bleeding (35.8%), constipation (17%), and diarrhea in 12%. The other indications were as shown in Table 2 - page 6.

The procedure was completed up to caecum in 940 (94%) patients. Eighty one and a half percent

of endoscopies (815 patients) performed, had normal findings, and 185 (18.5%) had abnormal endoscopic findings. The most common abnormal finding overall was colonic polyps in 240 (24%) patients, diverticulosis in 134 (13.4%) patients and colonic cancer in 120 (12%) patients and inflammatory bowel disease in 80 (8%) patients. Other findings according to frequency were; hemorrhoids in 90 (9%) patients, vascular ectasias in 21(2.1%) patients, familial adenomatosis polyposis in 6 (0.6%), and pneumocystoides intestinalis in 1 (0.1 %) patient.

Within these 8 months of the study, the colonic preparation was adequate in most of the patients (92 %) and not adequate in 80 (8%) cases. For those with adequate preparation, the grade of adequacy was excellent in 285 (31 %), good in 379 (42 %) and fair in 256 (27 %) as shown in Table 3 (page 6). The correlation between patient education and quality ranking of colonic preparation revealed that with more education, the colonic preparation is better, as shown in Table 4 - page 6.

	Number (n = 1000)	%
Rectal bleeding	358	35.8
Constipation	170	17
Diarrhea	120	12
Abdominal pain	90	9
Alteration in bowel habit	60	6
Family history of colonic cancer	40	4
Iron deficiency anemia	30	3
Abdominal distension	28	2.8
Melena with normal upper endoscopy	27	2.7
Weight loss	19	1.9
Metastasis cancer, searching for the primary	14	1.4
Post intestinal obstruction	38	3.8
Abdominal mass by CT scan	6	0.6

Table 2: Indication for the colonoscopies

	Patients (n = 1000)	%
Inadequate	80	8
Adequate	920	92
Excellent	285	31
Good	379	42
Fair	256	27

Table 3: Preparation rating and quality ranking

Education	Excellent (285) No. (%)	Good (379) No. (%)	Fair (256) No. (%)	Inadequate (80) No. (%)
Illiterates (80)	22 (27.5)	20 (25)	27 (33.8)	11 (13.7)
School (630)	137 (22)	228 (36)	204 (32.3)	61 (9.7)
University (290)	126 (43)	131 (45)	25 (8.6)	8 (3.4)
P- Value	0.012	0.061	0.0223	0.042

Percentage (%) = Number of patients from each education group with every preparation rating or quality ranking divided over the total patients of the same education group.

Table 4: Correlation between Patient Education and Quality Ranking of Colonic preparation

There were 55 (5.5%) patients who had complications related to the preparation in form of abdominal pain (34 patients), general weakness (23 patients), and headache (12 patients). There were 2 (0.2%) patients who had a major complication related to the colonoscopy procedure itself in the form of perforation (1 patient), significant bleeding not necessitating blood transfusion (1 patient), and minor complications according to frequency were abdominal distension in 92 (9.2%) patients, mild abdominal pain in 60 (6%)

patients, sedation overdose in 10 (1%) patients, and severe abdominal pain without evidence of perforation 2 (0.2%) patients.

### Discussion

The Endoscopy Unit at King Hussein Medical Center was established in 1987. King Hussein Medical Center is a teaching hospital, and receives referrals from all medical sectors in different parts of Jordan and surrounding countries. It serves the armed forces personnel and their dependents. This may explain

why our patient sample was of young ages as 42% of them are less than 50 years old. At the same time most (63%) were men, which may also reflect our culture, as women are shy regarding their lower gastrointestinal symptoms, and when offered colonoscopy try to avoid the procedure.

In our study the main indications for colonoscopies were rectal bleeding (39%), constipation (17%), and diarrhea in 12%. Screening colonoscopy is still not widely recommended in Jordan, especially

in patients followed in public hospitals.

Normal examination was a frequent finding, and found in 81.5% patients. This is one of the usual characteristics of the endoscopy service, where the negative result is of the same value as the positive one, and brings relief to the patient and his/her physician (7). It is traditionally believed that a specialist consultation can select suitable patients for colonoscopy and so there is a better diagnostic yield. However, it is generally agreed nowadays that attempts to justify doing the procedure by assessing the diagnostic yield are not appropriate.

Colonic polyps, diverticulosis, inflammatory bowel disease and cancer were the most common abnormal findings over the duration of the study period; this may be explained by our patient sample, as most of the colonoscopies were done to rule out cancer or inflammatory bowel disease. About 10% of patients diagnosed with cancer have no alarming symptoms, either due to inaccurate history taking, or early detection of cancer that is not yet causing symptoms, which may reflect a low indication threshold for doing the colonoscopy, and so a better prognosis for the patients. Diverticulosis was found in 13.4% of our patients, which is lower than that in western countries (9). This may be because our patient sample had a considerable number of patients of young age, or may reflect the life style in our locality in eating high fiber food, which is protective against diverticulosis (10).

In our study, the colonic preparation was adequate in most of the patients (92 %) and not adequate in 80 (8%) cases, which is comparable with different studies from other countries (11). For those with adequate preparation, the grade of adequacy was excellent in 285 (31 %), good in 379 (42 %), which is acceptable and adequate for doing colonoscopy with a good outcome.

Colonoscopy is a widely used diagnostic and therapeutic intervention. The procedure is usually well tolerated. In our study colonoscopy was safe and well tolerated. There were 2 (0.2%) major complications related to the procedure; one patient presented to the emergency department with significant rectal bleeding and he was hemodynamically stable without a drop in hemoglobin, which did not mandate blood transfusion. One patient had colonic perforation, which occurred while trying to bypass a tumor in the descending colon, and so the patient was referred to surgery and underwent right hemicolectomy. Minor complications were noticed in about 16.4 % of the patients in the form of mild abdominal pain, distension, sedation overdose and severe abdominal pain experienced during the procedure. Only 55 (5.5%) patients had complications related to the preparation in form of abdominal pain (34 patients), general weakness (23 patients), and headache (12 patients). For all the above patients with minor complications, nothing was done apart from reassurance and they left the endoscopy unit in very good conditions and were mostly asymptomatic.

The correlation between patient education and quality ranking of colonic preparation as shown in Table 4 indicates good understanding of the patients regarding preparation as well as their willingness to do the procedure helps them to be well prepared more than the less educated patients. This may indicate that the degree of education is significant ( $P$ -Value  $< 0.05$ ) related to the adequacy and grade of colonic preparation, as educated patients follow the instructions of our protocol of colonic preparation, because they want to give the physician the opportunity to have a clear field of examination and to end their complaints.

In conclusion, colonoscopy is an effective examination in patients who have gastrointestinal complaints. Colonic preparation at King Hussein

Medical Hospital using Biscodyl and Macrogel 4000 is acceptable and effective for doing colonoscopies in most of the patients, and is rarely associated with complications. Patient education is an important factor for better colonic preparation.

## References

1. F D Richard Hobbs. ABC of colorectal cancer, the role of primary care. *BMJ* 2000; 321:1068-1070.
2. Robert J. Newman, David B. Nichols, and Doyle M. Cummings. Outpatient Colonoscopy by Rural Family Physicians. *Annals of Family Medicine*.2005; 3:122-125.
3. Thomas F. Imperiale, M.D., David R. Wagner. Results of Screening Colonoscopy among Persons 40 to 49 Years of Age. *NEMJ*. 2002; 23: 346:1781-1785.
4. David A. Lieberman, M.D., David G. Weiss, Ph.D., John H. Bond. Use of Colonoscopy to Screen Asymptomatic Adults for Colorectal Cancer. *NEMJ*. 2000; 343:162-168.
5. Mustafa YILMAZ, Ahmet AYDIN, Zeki KARASU et al. Risk factors associated with changes in oxygenation and pulse rate during colonoscopy. *The Turkish Journal of Gastroenterology*. 2002; 13: 4, 203-208.
6. American Society for Gastrointestinal Endoscopy: Appropriate Use of Gastrointestinal Endoscopy. *Gastrointest Endosc* 2000; 52:831-7.
7. Bercowitz I, Kaplan M. Indications for colonoscopy: An analysis based on indications and diagnostic yield. *S Afr Med J* 1993;83:245.
8. Forbes GM, Collins BJ. Nitrous oxide for colonoscopy: a randomised controlled study. *Gastrointest Endosc* 2000; 51(3):271-7.
9. N Bradshaw, S Holloway, I Penman et. al. Colonoscopy surveillance of individuals at risk of familial colorectal cancer. *Gut* 2003;52:1748-1751.
10. C J A Bowles, R Leicester, C Romaya et al. A prospective study of colonoscopy practice in the UK today: are we adequately prepared for national colorectal cancer screening tomorrow? *Gut* 2004; 53: 277-283.
11. William Hamilton and Deborah Sharp. Diagnosis of colorectal cancer in primary care: the evidence base for guidelines. *Family Practice* 2004; 21: 99-106.



# CAREGIVING AND THE LIFE COURSE: QUALITY OF SOCIAL WORK/SOCIAL NURSING SERVICE IN TEHRAN, IRAN

## Abstract

This paper tries to explore and reflect an image of social work in Iran. As the socio-economic structure of the country is changing, and at the same time ageing of population is progressing, timely implementation of social work service should be of priority, and well practiced. Due to medical and technological advancements, people have longer life expectancy, resulting in higher dependency upon social work services of different kinds. So, increasing demand for health care services for the seniors, and simultaneously the youth with changing attitudes and expectations, and their emerging problems, and the like; all need social work services with especial reference to larger cities such as Tehran. Similarly, many adults in Iran are subject to increasing issues associated with their family budget, unemployment, increasing divorce rates and other social problems, needing social nursing, support and protection. The paper examines the roles and functions of 343 sample social workers functioning in Tehran. The main hypothesis of the paper is: "Quality social work improves the quality of life of the clients". The method of research mainly being empirical, it is preceded by theoretical and literature review. Findings indicate the quality of social work services in Tehran (Iran) in a quantitative order.

**Keywords:** Social work. Protection. Client. Welfare. Well-being.

**Mohammad Taghi Sheykhi**

Professor of Sociology,  
Department of Social Science,  
Al-Zahra University, Tehran

## Correspondence:

Dr. Mohammad Taghi Sheykhi,  
Pasdaran, Golnabi Street,  
Nategh-E-Noori Street,  
Koche Damghani, No. 14, Apt. # 4,  
Tehran, 19478, Iran  
Tel: 009821-22859416

**Email:** mtshykhi@yahoo.com

## Introduction

Social work, such as nursing, seeks to diagnose and treat the response to problems. Social workers, quite similar to nurses, are guided by an ethical and humanitarian philosophy in which every human being deserves respect, regardless of social, cultural, racial, economic, religious or other factors. Social workers as social nurses, practice in the context of relations with their clients, families, or groups. In principle, social work services are given to people at all stages of life in the home, hospital, place of employment, school, or any environment where social work is needed. However, the progress or lack of progress towards their goals is determined by the client and the social worker, or so to say, the social nurse. Therefore, social work/social nursing is protective and preventive, and can lead the individuals to have healthier lives.

## Method of Research

The research is based on a combination of theoretical frameworks and empirical realities. For the empirical part of the study 343 social workers stationed in welfare departments and hospitals were randomly selected from different parts and neighbourhoods of Tehran City. They were approached through direct interviews with the help of pre-designed

questionnaires. Eventually, the filled-in questionnaires were edited, and electronically extracted to reach the findings. The author also reviewed the background literature on social work services from different societies of the world. The present research is based on the main hypothesis that: "Quality social work improves the quality of life of the clients". In the theoretical part, the author tried to refer to, and make use of, relevant theories within reach.

## Global Perspective of Social Work

Social work is a profession for those with a strong desire to help improve people's lives in different ways. Social work is a professional discipline pursuing development and promotion of social welfare (Ghandi: 2009). Social workers assist people to cope with and solve issues in their everyday lives, such as family and personal problems and dealing with relationships. They may also conduct research, advocate for improved services, or become involved in planning or policy development. They provide social services and assistance to improve the social and psychological functioning of children, families, the elderly people, lonely widows etc. Similarly, in schools, social workers often serve as the link between students' families and the school to ensure the academic



success of the students. While in the developed countries there are types of social workers who are trained and made ready to serve in specialized fields, the shortage of such professionals is easily felt in the developing countries such as Iran. Similarly, while employment of more social workers is expected in the West due to the growing ageing population, and the ageing baby-boom generation, developing countries such as Iran lack it due to limited resources.

Social workers are found in a wide range of settings such as family centres, schools, mental health centres, social welfare departments etc. in the developed countries. In the developed countries some are self-employed; preferring to set up their own private practice in a manner similar to many physicians and lawyers. They usually work with all kinds of people including the poor, substance abusers, minority groups etc. While the developed countries are very experienced in the field, the developing countries, including Iran, still have a long way to go to be able to cope with their social work and social welfare needs in their societies.

### Increasing needs and Social work

The concept of common human needs and social welfare as articulated by Towle (1965) includes those basic common needs which are necessary for the survival and development of all human beings. According to Towle they include physical well-being, personality development, emotional growth, development of intellectual capacity, relationships with others, and spiritual needs which are highly concerned with the functions of social work.

Helen Harris Perlman (1957), a social worker like Towle, emphasized the holistic nature of common human needs as such: "The person is a whole in any moment of his/her living. He/she operates as a physical, psychological and social

entity, whether on the problem of his/her neurotic anxieties, or of one's inadequate income". He/she is highly affected by his/her physical and social environment. Therefore, it is social work which can intervene and solve the person's problems.

While all people seek to meet their needs for growth, development and survival, the way they do so varies. Common needs are expressed and met in different ways by different groups of people (Berger: 1985). Human diversity refers to the biological, psychological, social and cultural differences as observed among different people. However, some of the most significant types of diversity are gender, age, race, ethnicity, physical or mental ability, socio-economic level etc. All these create functions for social workers.

### Social Work Tasks in Tehran

The present research examines the nature of social work, and the role and function of social workers in Tehran mega-city. It explores and identifies the skills, knowledge and expertise as acquired by social workers in this city. While the society has undergone many changes in the second half of the 20th century; followed by changes in the family system, social institutions, culture etc., this paper will measure the quality and functioning of social work as reflected by the social workers in Tehran. Though social workers have more to do with the regulation and monitoring of professional activity (Banks, 2003), yet it is increasingly emphasized on the core values on which social work as an activity should be based on. Social work as proposed by IFSW contains references to human rights, and social justice (IFSW, 2004). Social work is a necessity today, and it should be meaningfully practiced to have a high turnover rate. Social work is practiced in order to alleviate crises (Jones et al., 2004). Similarly, "the idea of the social worker as someone who works with or counsels individuals has been a recurrent and powerful notion in social work throughout its history" (Younghusbands, 1959).

Though there are constancies in terms of the assumed function of social work and the role of the social workers, it is nevertheless important to understand the socio-economic context in which they are situated. Understanding the socio-political factors which have influenced the development of social work or social services across Europe is necessary to know (Evers, 2003; Munday, 2003). Developing countries including Iran as well, could follow suit. Therefore, social work does not operate in a vacuum. There are a number of contextual factors to be acknowledged in our understanding of the role to be played by social work and social workers.

The function of social work and the role played by the social worker in contemporary society has of course been influenced by major social changes which have occurred over the past two to three decades. Major demographic changes such as the increasing low birth rate in Iran, and as a result, a move to a much older age structure, has changed the functioning of social work not only in Iran, but to some extent in other developing countries as well. As Munday (2003) points out, the significance of low birth rate means that in the future there will be a shortage of adult children to look after elderly relatives; the phenomenon which is almost appearing in Iran. This will have an obvious impact on the provision of not only social work, but further provision of social services. The rise in drug-related problems, youth-related problems, elderly problems and the like; all need social work interventions.

Similarly, the appearance of increasing poverty and social exclusion in different forms as some commentators argue (Jordan and Parkinson: 2001; Unison, 2004; Jones et al., 2004) needs to be tackled through social work interventions. However, the operation and use of social work may prevent individuals, families and the communities that are at risk from accessing it. In the meantime,

the identity crisis of social workers in a local authority setting may mean they are no longer able to effectively carry out preventive work there (Jordan and Parkinson:2001; Jones, 2004). Therefore, there is yet a lot to be done to familiarize the roles and functions of social workers with special reference to countries like Iran.

### Validity and Scope

The value of social work is generally associated with; working with individuals, face to face work, working with communities and community work, prevention and the like. In addressing developments in social work in countries like USA, Australia and New Zealand, Patron and O'Byrne (2000) outlines the notion of constructive social work. Within the notion of value-based social work, various concerns related to the crisis in social work are reviewed and underpinned. Resolution of problem solving situations are found through dialogue with the worker and joint efforts are made to negotiate the financial and human resources needed to effect meaningful life changes.

To solve social problems and alleviate or weaken social crises, social work and social workers are very much needed in order to fulfill the function and role of supporting those who are in need; largely because of poverty, disadvantage and social exclusion. However, without the role being played by social work, large sections of the population would have little protection from the negative impact of the growing social and economic inequalities which will continue to characterize life for many individuals, the elderly, families and communities in the 21st century.

Professional identity of social work is needed to be established in order to reflect clear roles of the social workers. The identity of social work and the role to be played by the social workers has to be viewed in reference to the changing nature of the relationship between worker and

client (users). Similarly, social work is a confusing term and contributes to the lack of clarity between social work, social care, social services, and the critical situation in which social work finds itself. However, social workers confront various cases/problems during their professional careers. These may include hunger, shortage of affection, problems of habitation, marriage-related issues, infertility-related issues, income/occupation problems and the like (Montakhab:1992).

### Responsibility of Social Worker

Social workers must uphold public trust and confidence in social work services, and their primary role is to protect and provide the welfare and well-being of the children, youth, vulnerable adults and communities. Social workers reserve certain functions, and should act in terms of regulations, in a way to ensure the protection of the public. Social workers should have access to professional consultation, support and advice from appropriate, experienced and higher social workers. The intended consultation and management should focus on assisting social workers to reflect critically on their practice, use their powers effectively and make complex decisions. Similarly, social workers constantly manage the double roles of care and control in discharging their duties in a varied and complex environment. It is important that the service users and the general public understand the complexity of balancing the two roles. There must also be collaboration, transparency and openness with clients particularly in relation to using statutory powers.

Social workers must be aware of society's values and operate in accordance with the legal obligations. They must be able to balance the needs of the clients/ service users. As communities always include people who are vulnerable and who pose challenges for themselves and others, social workers intervene in situations where not to do so, could lead to a continuation or escalation of harm.

They may even work with people who have no wish to use social work services. On the other hand, social workers may be involved in cases where a wide-range of resources may be needed. However, they have a role to play in promoting social justice and in identifying and addressing obstacles to social inclusion.

Social work skills are often deployed to good effect in collaboration with other professionals, either in ongoing multi-disciplinary teams, or in ad hoc joint work around the needs of an individual or family. The distinctive social work contribution combines a developing body of knowledge and skills, a set of core values and priorities, and a range of personal qualities, and includes working through the medium of a qualitative personal relationship. It is worth mentioning that though the primary responsibility of the social worker is the protection and promotion of the welfare and well-being of children, vulnerable adults, the elderly, and communities, yet in a wide range of developing countries it does not happen so. Social workers should use their professional knowledge and expertise to make due judgment and decisions to solve problems.

Social workers are likely to work with people who have no wish to engage with social work services, but at the same time are required to do so for their own interests, or other's interests/safety. This will bring a positive change in their lives. Similarly, social workers are needed to have appropriate access to technical and professional consultations; and get the necessary support and advice from experienced social workers in order to effectively make complex decisions.

Social workers are therefore responsible for the assessment and management of complex and inter-connecting risks rather than simply risk avoidance. This needs social workers to work with individuals to help them assess the risk they face, and may present to others, and to

promote the independence of service users while helping them as far as possible from danger of harm. Similarly, social workers need to be able to develop and maintain their skills in this field throughout their careers, and in all settings. Therefore, the social worker's task is to work alongside people to help them build resilience, maintain hope and optimism and develop their strengths and abilities. They must detach uncertainty from their approach to clients.

### Social Work as a Profession

Social work is a profession for those with a strong desire to help improve people's lives. The function of social workers is to assist people by helping them cope with issues in their everyday lives, deal with their relationships, and solve personal and family problems. Some social workers help clients who face a disability, such as a life-threatening disease, or a social problem, such as inadequate housing, unemployment and the like. However, many social workers specialize in serving a particular population or working in a specific setting. Some who conduct research and advocate for improved services, are involved in planning or policy development.

So far as the work environment is concerned, social workers usually spend most of their working time in an office; they may travel locally to visit clients, meet with service providers, or attend meetings. Social work, while satisfying, can be challenging too. For example, understaffing arrangements and caseloads may add to the pressure, and ultimately affect social workers.

### Problem-solving

Social work is an art, a science, or a profession that helps people solve personal, group (especially family), and community problems, and to attain satisfying personal, group and community relationships through social work practice (Farley and Smith, 2007). Social work promotes social change, problem solving in human relationships, and

the empowerment and liberation of people to enhance well-being. Social work utilizes theories of human behavior and social systems. It contributes to the points where people interact with their environments. However, principles of human rights and social justice are fundamental to social work (International Association of Schools of Social Work, 2001).

### Development vs Social Work

While development is a complex concept both in theory and practice, it is very much associated with social work. At the individual level, development has the implications of increased skills and capacity, freedom, creativity, self-discipline, responsibility and material well-being. Similarly, at the level of society, the concept connotes increasing capacity to regulate internal as well as external relations (Rodney, 1972). Other scientists relate it to gross national product (GNP). Thus, any nation may be said to be achieving some level of development, if its per capita output is growing faster than its population (Todaro and Smith, 2003). Economic development has further been seen in terms of the planned alteration of the structure of production and employment, and the whole process is very much subject to the application of social work.

Additionally, Stutz and De Sousa (1998) note that the United Nations has devised a Human Development Index (HDI) to measure national human development of both developing and developed countries. The HDI comprises demographic, social and economic factors such as life expectancy, literacy rate and per capita purchasing power, respectively. The improvement of all these indicators is very much concerned with the operation of the role and function of social work.

In a nutshell, development is both material and social; material in terms of economic growth and increased productivity, and social in terms of qualitative changes in people's lives, attitudes, institutions and external

relationships. In this process, social work helps the individuals identify themselves as community, and are collectively empowered to use the necessary knowledge, values and organizational skills to sustainably share and enhance the available resources in order to bring about positive change in favour of all members of the society. Thus, through the application of social work, while different dimensions of development are achieved, poverty, inequality, suffering and injustice are aimed to end (Oxford Community Aid Abroad, 2001).

Not only Iran, but all nations need both social and economic resources to achieve national development. In this regard, social work can generally contribute to the process of development through enabling individuals and the society. Thus, social workers are mandated to mobilize and deliver a wide range of services to their clients (Bernstein, 1995).

### Theoretical Perspectives

Social work needs to express and articulate the theoretical frameworks which inform, structure and facilitate its operation (Coulshed and Orme, 1993). Social work discussions about theory have tended to be reactive. Similarly, theories in social work often include approaches such as person-centered counseling, family therapy, cognitive-behavioural therapy, anti-discriminatory practice theory etc. (Davies, 1997). Another perspective is expressed as such: traditionally in social work as in other social policy areas, the social work profession tends to be interpreter of such knowledge at theoretical as well as practice levels. In social work, a distinct area of research developed which came to be called "client studies", pioneered by the book "The Client Speaks" (Meyer and Timms, 1970).

Historically speaking, the knowledge base of social work has been derived from social research conducted using traditional methods of inquiry which claim to be objective, neutral and value free, and to produce



knowledge which is independent of the persons carrying out the research (Stanley and Wise, 1993).

Whether we recognize it or not, theory- less practice does not exist; we cannot avoid looking for explanations to guide our actions. Therefore, to make sense of our everyday experiences, so that we can explain to ourselves and to others what we are doing and why, we have to turn to theory. Research has shown that agencies which profess not to use theory offer a non-problem- solving, drifting service (Corby, 1982).

There seems to be no bounds to the knowledge and skills required to do social work, despite the claim that, "anyone with a kind heart can do it" (Olsen, 1986). The list of our roles and tasks continues to grow: practitioners have to be therapists, managers, reformers, researchers, planners, teachers and protectors. Though we cannot be experts at everything, yet, as we have seen, we are beginning to be expected to understand the cause and cure for many social ills and prove that our methods work. Personal qualities such as self-understanding, curiosity, determination, and ability to get along with people are necessary, but not sufficient conditions for productive practice (Jordan, 1984). We need a kind heart, common sense and uncommon sense (Gammack, 1982).

## Findings

In conducting research on social work tasks in Tehran City, some 343 social workers were approached. The data collected from the interviews indicates an image of social work in Iran.

Based on data collected, and according to the educational standards of the social workers, out of 343 social workers interviewed, 6 (1.75%) had finished higher secondary school, 36 (10.5%) had finished diploma, 229 (66.76%) had finished BA, and finally 72 (20.99%) of the social workers had finished their MA degrees or above.

Data collected indicates that out of the total sum of 343 respondents, 244 (71.14%) of the social workers had official and specialized certificates of social work, while 99 (28.86%) did not have official certificates for their jobs. Based on gender classification, 56 (16.33%) of male social workers reported to have official and specialized certificates, and 33(9.62%) did not have any official and specialized certificates. So far as the female social workers are concerned, 188 (54.81%) asserted to have specialized social work certificates, whereas 66 (19.24%) did not have the same.

The social workers studied could be classified affiliation-wise. Out of the total 343 respondents, 159 (46.36%) were affiliated with the welfare department, 63 (18.37%) were affiliated with Imam Khomeini support committee, 68 (19.83%) were connected to the ministry of health, and finally 53 (15.45%) were affiliated with the private sector.

In one of the questions asked, the author came to know of the number of clients that the social workers visit per month. In that, 69 (20.12%) asserted to have less than ten clients per month, and 73 (21.28%) of the respondents stated they had 10 to 14 clients per month. Similarly, 68 (19.83%) of the sample social workers said they had between 15 and 24 clients in a month, 133 (38.78%) of the social workers said they had more than 25 clients monthly.

In another question the views of the social workers were searched as to the gender of the clients they approach per month. In response to this question: Out of the total of 343 respondents, 123 (35.86%) said they had more female referrals, 48 (13.99%) had more male clients, and finally, 172 (50.15%) said they had both male and female clients in equal numbers.

Social workers were also searched with reference to the type of problems raised by clients. In that, 54 (15.74%) stated that their clients

had substance abuse problems, 136 (39.65%) of the given social workers stated that their clients had family problems, 73 (21.28%) of the respondents asserted that their clients were somehow ill, 64 (18.66%) of the samples expressed that their clients did not have regular income, and finally 16 (4.66%) of the clients declared that their clients had other difficulties.

Social workers were also investigated with regard to the type/ quality of the illness of the clients in Tehran City. In that, 55 (16.03%) of the sample respondents declared that their clients had physical problems, 55 (16.03%) declared that the clients were involved with some physical and mental problems, and 227 (66.17%) of the social workers had clients with dementia and Alzheimer's disease.

In the present research, social workers have been classified according to the age groups of their clients as well. In that, the respondents asserted that 35(10.2%) of their clients were in age groups 15-24, similarly, 136 (39.65%) of the samples stated that the approximate age groups of their clients were between 25 and 34 years. 125 (36.44%) of the social workers categorized their clients between 35 and 44 years of age, 30 (8.75%) of the sample respondents declared their clients' age-groups to be between 45 and 54. Finally, 17 (4.96%) of the social workers stated that their clients were of 55 years of age and over.

One of the other assessments conducted on social workers is their study in terms of the insurance status of their referrals. In this part, 187 (54.52%) of the respondents asserted that most of their clients have health insurance, whereas 156 (45.48%) of samples stated that mostly their clients do not have health insurance.

Similarly, social workers were measured by the number of times that clients are referred for their social work. In that, 19 (5.54%)

Age	Total		Males		Females	
	Number	Percent	Number	Percent	Number	Percent
Total	343	100	89	25.95	254	74.05
Under the age 25	13	3.79	4	1.17	9	2.62
Age 25- 29	88	25.66	7	2.04	81	23.62
Age 30-34	79	23.03	19	5.54	60	17.49
Age 35-39	68	19.83	19	5.54	49	14.29
Age 40-44	45	13.12	18	5.25	27	7.87
Age 45 and over	50	14.58	22	6.41	28	8.16

**Table 1: Classification of Social Workers by Age and Sex in Tehran**

of the sample social workers stated that they held one session with their clients, 74 (21.57%) of the social workers asserted that they held two sessions with their clients, 103 (30.03%) of the respondents declared that they held three sessions with their clients, and finally, 147 (42.86%) of social workers stated they had four sessions and over with their clients.

Here we will come to know of the duration of problem-solving of the clients by the relevant social workers. In that regard, 59 (17.2%) of social workers enunciated that it took them less than one month to treat their clients. Similarly, 114 (33.24%) of social workers stated that it took them 1 to 3 months to rehabilitate their clients followed by 99 (28.86%) of respondents who stated that they rehabilitate their clients between 3 to 6 months, and eventually 71 (20.7%) of the samples declared that they finish up with their clients within 6 months and above.

Post-treatment relationship between social workers and clients is noteworthy. Out of 343 respondents, 94 (27.41%) social workers stated that they had no relations with the clients at all after their treatment, 92 (26.82%) social workers stated that they kept in contact with clients for less than one month after their remedy, 58 (16.91%) of the respondents enunciated that they kept contact with other clients for 1 to 3 months. Likewise, 38 (11.08%) of the sample social workers reported

to be in contact with their clients in the post-treatment period for 3 to 6 months, and finally 61 (17.78%) of the social workers asserted to be in contact with their clients after their files are closed for 6 months and over.

In another question, the quality and place of social case work is investigated. In that, 22 (6.41%) of the social workers reported that they treat clients more at the elderly nursing homes, 140 (40.82%) of the social workers asserted they treat clients at the scene/site, 56 (16.33%) of the respondents stated they interacted with clients at their homes, and eventually 125 (36.44%) social workers declared they treat clients at the rehabilitation centres.

As the relation of social workers with young couples as clients is of importance, some questions were developed in this regard. In that, 37 (10.79%) social workers reported to be very much in relation with young couples as clients, 64 (18.66%) social workers stated they have very few relations with young couples as clients; 160 (46.65%) of the respondents reported to be in a relationship with young couples as clients to some extent, and finally 82 (23.91%) social workers expressed they have very few relations with young couples as their clients.

As divorce rate is currently quite high within the youth in Iran, some relevant

inquiries were made in the present study as to the objectives of the social workers' relationship with young clients. In this connection, 51 (14.87%) of the social workers aimed to nullify the divorce intention of the clients, 111 (32.36%) of the social workers asserted they delay the divorce case of their young clients, 4 (1.17%) of the social workers preferred to accelerate the divorce case of their young clients, and finally 177 (51.6%) of the social workers preferred and chose compromise with their young clients.

As many social workers are involved with elderly clients today, some questions have been set here to clarify their conditions. In this regard, 170 (49.56%) of the social workers said they were involved with lonely female clients, 38 (11.08%) of the social workers stated they were involved with lonely male clients, and finally, 135 (39.36%) of social workers expressed to be involved with both male and female clients.

The paper has also investigated the type of clients approached. In this regard, 59 (17.2%) of the social workers declared their clients to be elderly people, 17 (4.96%) of the social workers declared children to be their clients, 49 (14.29%) of the social workers declared young criminals to be their clients, and finally 218 (63.56%) of the respondents stated families were their clients.

## Conclusion

Social work service, if improved, could boost the quality of life of all sorts of people with special reference to ageing people. The paper gives us an insight on which to develop social work practice in Iran, wherein ageing people are increasing under the conditions where overall social, economic and cultural life is also changing. In order to enhance the quality of service of social work, we should ensure we know where society is. Similarly, the existing services must be assessed, and further developments should be planned for. While the human needs are increasing more than ever before, social work services are necessary in all kinds and for all sorts of people regardless of age, sex, religion, race, caste and creed. While the holistic nature of common human needs, such as the physical, psychological and social needs may be met, for those with access to an organized social work service, for many, including potential clients in Iran in areas with underdeveloped social work services, they are not met. Under such circumstances many problems remain unsolved for such people in developing societies including Iran.

The paper enunciates how social work service is associated with a number of contextual factors which need to be acknowledged, before it is practiced. Similarly, due to the appearance of increasing change in social life, family life and social exclusion in Tehran (Iran), enhancing the quality of social work, and the quantity of social workers is remarkable. In this way, social workers can detach uncertainty from the approaching clients. In the present study findings have examined various indicators as expressed by the social workers such as age, sex, education etc. Similarly, data associated with various indicators of clients such as the difficulties, number of referrals, age, sex, characteristics of the clients etc. were assessed and measured in detail.

## References

- Banks, S. (2003). "From Oaths to Rulebook: A Critical Examination of Codes of Ethics for Social Professions", *European Journal of Social Work*, 6 (2), pp.133-144.
- Berger, R. (1985). *Human Behaviour*, 2nd ed. White Plains, New York, Longman, Inc.
- Bernstein, A.J. (1995). Redefining Social Work's Emphasis on the "Social": The Path to Development, In: *International Social Work*. 38, 53-67.
- Corby, B. (1982). "Theory and Practice in Long-Time Social Work: A Case Study of Practice with Social Service Department Clients", *British Journal of Social Work*, Vol.12, No.6, pp. 619-38.
- Evers, A. (2003). Current Stands in Debating User Involvement in Social Services: Strasbourg, Council of Europe.
- Farley, O.W., and L.L. Smith. (2006). *Introduction to Social Work*, 10th ed., Boston, Pearson.
- Ghandi, Mohsen. (2009). *An Introduction to Social Work*, Tehran, Atai Publishing.
- IFSW (International Federation of Social Workers). (2004). IFSW General Meeting 2004, Proposal for a New Ethical Document Agenda Item 11.1.
- International Association of Schools of Social Work, (2001).
- Gammack, G. (1982). "Social Work as Uncommon Sense", *British Journal of Social Work*, Vol. 12, No. 1, pp.3-22.
- Jones, C., I. Ferguson, M. Lavalette, and L. Penketh. (2004). *Social Work and Social Justice: A Manifesto for a New Engaged Practice*.
- Jordan, B. (1984). *Invitation to Social Work*, Oxford, Basil Blackwell.
- Jordan, R., and Parkinson, C. (2001). "Reflective Practice in a Process for the Re-approval of ASWs: An Exploration of Some Inevitable Resistance", *Journal of Social Work Practice*, 15 (1), pp. 67-79.
- Montakhab, Parivash. (1992). *Social Casework*, (Original Work by Helen Harris Perlman), Tehran, Organization for Publications and Education of the Islamic Revolution.
- Munday, B. (2003). *European Social Services: A Map of Characteristics and Trends*, Strasbourg, Council of Europe.
- Olsen, M.R. (1986). "Integrating Formal and Informal Social Care: The Utilization of Social Support Networks", *British Journal of Social Work*, Vol. 16, Supplement, pp.15-22.
- Parton, N., and P. O'Byrne. (2000). *Constructive Social Work*, Basingstoke, Macmillan.
- Perlman, Helen Harris. (1957). *Social Casework*, Chicago, University of Chicago Press.
- Rodney, W. (1972). *How Europe Underdeveloped Africa*, Dar es Salam: Tanzania Publishing House.
- Stutz, F.P. and de A.R. Souza. (1998). *The World Economy: Resources, Location, Trade, and Development*, Upper Saddle River, New Jersey, Prentice Hall.
- Todaro, M. and S.C. Smith. (2003). *Economic Development*, Harlow England, Pearson/Addison Wesley.
- Towle, C. (1965). *Common Human Needs*, Silver Spring, Maryland, National Association of Social Workers.
- Unison. (2004). *The Way Forward for Scotland's Social Work*, Edinburgh, Unison.
- Van Zwanenberg, Z, 2003, *Leadership and Management Development in Social Work Services*, Edinburgh, Scottish Executive.
- Younghusband, E. (1959). *Report of the Working Party on Social Workers in the Local Authority Health and Welfare Services*, London, HMSO.



# CAUSES OF POOR VISION AMONG SCHOOL CHILDREN AND THE IMPORTANCE OF SCREENING PROGRAMS IN JORDAN

## Abstract

**Objectives:** To study the causes of poor vision among school children in Jordan as an example of developing countries and to see whether it is useful to conduct a regular visual screening program in school children.

**Materials and Methods:** A prospective study that was done in Queen Alia Military Hospital during the period between July 2009 and July 2011. A total number of 1046 children aged between 6-14 years were enrolled in the study. Two sampling methods were used. Firstly, randomly selected patients attending the pediatric clinic for non ophthalmologic complaints were referred to the ophthalmology clinic. And secondly, children from two different schools were screened by an ophthalmologist for their visual acuity using illiterate E-chart and a pinhole. Patients with suspected eye abnormalities or with visual acuity <6/12 in at least one eye underwent further ocular examination including anterior and posterior segment examination and cycloplegic refraction.

**Results:** 982 children (93.9%) had visual acuity of 6/12 or better in both eyes. 64 children (6.1%) had visual acuity of <6/12 in at least one eye (52 were bilateral and 12 were unilateral). Myopia (simple or compound) was found in 42 children (4.0%), hypermetropia in 4 children (0.4%), and astigmatism in 2 children (0.2%). Other causes of poor vision included congenital cataract, corneal pathology, retinal abnormalities, congenital glaucoma, and strabismic amblyopia.

**Conclusion:** The prevalence of refractive errors is high enough to justify a regular school visual acuity screening program as it may affect children's educational development.

**Keywords:** poor vision, children, screening, refractive error.

## Ismat Ereifej

Ismat Ereifej, MD  
Department of Ophthalmology at King Hussein Medical Center  
of the Royal Medical Services,  
Amman, Jordan

## Correspondence:

Ismat Ereifej, MD  
Department of Ophthalmology at King Hussein Medical Center  
of the Royal Medical Services,  
Amman, Jordan.

**Email:** ereifejismat@yahoo.com

## Introduction

Screening of vision is an essential part of the medical inspection at schools(1). In developed countries, screening for eye diseases in preschool and school children is done routinely. In the United Kingdom, almost all children with important visual problems have been detected before school entry(2), and by the age of 8 years only 1.7% of children have not been screened for eye diseases(3). Previous studies done for screening of visual acuity deficits and ocular disorders in Jordanian schools and other developing countries showed the prevalence of visual acuity deficit to range from 1.9% to 4.4%(1, 4-12).

Normal vision is important for leading a normal life, good education, and social progress. Amblyopia is one of the most common causes of visual loss in children, and the way to decrease its incidence is at early detection through effective visual screening programs for preschool children at age of 3-5 years(13, 14).

The population of Jordan is nearly six million, and approximately 45% of them are below 14 years of age. Most of them were in moderate socioeconomic status(5). In this study we aimed at studying the causes of poor vision in a major hospital in Amman city to determine the prevalence of visual acuity deficits, particularly

refractive errors, and whether it is justified to carry out a regular visual assessment screening program.

## Methods

This prospective study was done in Queen Alia Military Hospital during the period between July 2009 and July 2011. A total number of 1046 children aged between 6-14 years were enrolled in the study. Two sampling methods were used. Firstly, 480 randomly selected patients attending the pediatric clinic for non ophthalmologic complaints were referred to the ophthalmology clinic. And secondly, 566 children from two different schools were screened by an ophthalmologist for their visual acuity using illiterate E-chart and a pinhole. Patients with suspected eye abnormalities or with visual acuity <6/12 in at least one eye underwent further ocular examination. Ophthalmologic examination included anterior segment examination via slit lamp, posterior segment examination after mydriasis via indirect ophthalmoscope, cycloplegic refraction and post mydriasis testing.

## Results

Table 1 (page 16) shows the age and sex distribution of patients; 574 children were males (54.9%) and 472 were females (45.1%). 982 children (93.9%) had visual acuity of 6/12 or better in both eyes.

Age (years)	Males	Females	Total
6-7	38	32	70
7-8	44	40	84
8-9	42	38	80
9-10	102	74	176
10-11	106	84	190
11-12	94	92	186
12-13	80	58	132
13-14	68	54	122
<b>Total</b>	<b>574</b>	<b>472</b>	<b>1046</b>

Table 1: Age and sex distribution of patients

Cause	Number of patients			Prevalence %
	<u>Bilateral</u>	<u>Unilateral</u>	<u>Total</u>	
Refractive errors	<b>42</b>	<b>6</b>	<b>48</b>	<b>4.6</b>
Myopia	38	4	42	4.0
Hypermetropia	2	2	4	0.4
Astigmatism	2	0	2	0.2
Congenital cataract	2	2	4	0.4
Corneal pathology	2	2	4	0.4
Retinal abnormality	4	0	4	0.4
Congenital glaucoma	2	0	2	0.2
Strabismic amblyopia	0	2	2	0.2
<b>Total</b>	<b>52</b>	<b>12</b>	<b>64</b>	<b>6.1</b>

Table 2: Causes of poor vision

64 children (6.1%) had visual acuity of  $<6/12$  in at least one eye (52 were bilateral and 12 were unilateral). Myopia (simple or compound) was found in 42 children (4.0%), hypermetropia in 4 children (0.4%), and astigmatism in 2 children (0.2%). Visual acuity  $<6/60$  in the better eye (severe visual impairment) was found in 10 patients (4 myopes, 2 with congenital glaucoma, 2 with keratoconus and 2 with retinitis pigmentosa). Four patients had corneal pathology. Two had unilateral opacity as a result of trauma and 2 had bilateral keratoconus. Four patients had retinal abnormalities causing bilateral poor vision: 2 had optic atrophy and 2 had retinitis pigmentosa. Other causes of poor vision included congenital cataract, congenital glaucoma, and strabismic amblyopia (Table 2).

## Discussion

Different procedures have been used for screening for amblyopia. For example visual acuity testing has been used; a level of  $6/12$  or worse is usually adopted(15). A drawback of this definition for poor eyesight as a referral criterion for further refraction is that lower degrees of hyperopia would have gone undetected(16).

Pinhole is another screening method that was adopted in our study. It is a highly sensitive (false negative rate 1.5%) and a moderately specific (false positive rate 20%) method for screening of visual acuity(17). A substantial improvement of visual acuity with pinhole is found when refractive errors or minor degrees of opacification of the media are present. Refractive errors are commonly encountered during visual screening programs. Refraction is time consuming whereas the pinhole testing has the advantage of detecting correctable, undetected visual acuity deficit(18).

The prevalence of visual acuity deficits and refractive errors was found to be 6.1% and 4.6% respectively which is slightly more than what was found in other studies done in our region. A study done in Karak city in southern

Jordan showed the prevalence of poor vision (visual acuity  $<6/12$ ) at 1.7%(5). Another study done in the southern desert of Jordan showed the prevalence of poor vision (visual acuity  $<20/40$ ) at 3.1%(4). Sha'aban and her colleagues found the prevalence of visual acuity deficits in Jordanian school children to be 2.7%(1). In Saudi Arabia, the prevalence of visual acuity deficits ranged from 1.9% to 3.3% in different cities(15). In Mwanza city in Tanzania, the relative high prevalence of refractive errors at 6.1% in secondary school students was enough to justify a regular eye screening program(16).

From the results we obtained, the following recommendations are suggested:

1. Increase awareness of the primary care personnel, general practitioners, doctors, and nurses working in well baby clinics of the importance of vision screening in this age group, and to offer vision screening for each child coming to the primary health center with referral for those with visual acuity  $<6/12$ , to an ophthalmologist.
2. Annual routine vision testing for children at the age of four years to prevent significant consequences of high refractive errors and to achieve better school performance.
3. Establish ambulant school eye clinics as an integral part of the governmental medical services.
4. Increase the awareness of the public via publications, lectures, mass media, and parental education to allow better observation for early detection of signs of low vision in their children particularly in rural areas where it is expected to find low educational levels among parents.

## References

1. Sha'aban R, Khorma S, Hashki M, et al. Screening of visual acuity deficit among students in Jordanian schools. *JRMS* 1996; 3: 19-21.

2. Cummings GE. Vision screening in junior schools. *Public health* 1996; 110: 369-72.
3. Stewart-Brown SL, Brewer R. The significance of minor defects of visual acuity in school children: implications for screening and treatment. *Trans Ophthalmol Soc UK* 1986; 105: 287-95.
4. Kharma SM, Tahat AA, Tayeh, MA. Ocular screening of school children in the Southern desert of Jordan. *JRMS* 2000; 7: 39-41.
5. Maaita JF, Sunna LF, Al-Madani MV, et al. Eye diseases in children in southern Jordan. *Saudi Med J* 2003; 24: 154-156.
6. Al-Assaf A, Fatani R. Vision screening of preschool children in Riyadh. *Saudi Journal of Ophthalmology* 1994; 8: 9-14.
7. Abolfotouh M, Aheem Y. Ocular Disorders Among school boys in a high altitude area of Saudi Arabia. *Saudi Journal of Ophthalmology* 1994; 8: 20-24.
8. Al-Faran MF. Prevalence of ocular disorders among schoolboys in five villages in Al-Baha Region. *Annals of Saudi Medicine* 1992; 12: 3-7.
9. Dandona R, Dandona L, Naduvilath TJ, et al. Refractive Errors in an Urban Population in Southern India: The Andhra Pradesh Eye Disease Study. *Investigative Ophthalmology and Visual Science* 1999; 40: 2810-2818.
10. Wedner SH, Ross DA, Balira R, et al. Prevalence of eye diseases in primary school children in a rural area of Tanzania. *Br J Ophthalmol* 2000; 84: 1291-1297.
11. Gilbert CE. A pilot study to evaluate logistics and methods for a prevalence and causes survey of visual impairment and hearing impairment in children. Report to the Ministry of Health. Gaborone (Botswana): Ministry of Health; 1995: 1-34.
12. Kalikivayi V, Naduvilath T, Bansal A, et al. Visual impairment in school children in southern India. *Indian J Ophthalmol* 1997; 45: 129-134.
13. McDonald MA. Assessment of visual acuity in toddlers. *Surv Ophthalmol* 1986; 31: 189-210.



14. Ryan JB. Paediatric primary care vision examination. *Ophthalmol Clin* 1996; 5: 1-34.
15. Bardisi, WM, Bin Sadiq BM. Vision screening of preschool children in Jeddah, Saudi Arabia. *Saudi Med J* 2002; 23: 445-449.
16. Wender SH, Ross DA, Todd J, et al. Myopia in secondary school students in Mwanza City, Tanzania: the need for a national screening programme. *Br J Ophthalmol* 2002; 86: 1200-1206.
17. Lowenstein DI, Palberg PF, Connet JE, et al. Effectiveness of pinhole method for visual acuity screening. *Arch Ophthalmol* 1985; 103: 2223.
18. Reinstein DZ. Correctable undetected visual acuity deficit in patients aged 65 and over attending an accident and emergency department. *Br J Ophthalmol* 1993; 77: 293-296.

## HEARING ASSESSMENT IN THE NEWBORN

### Abstract

**Introduction:** Hearing assessment is one of the important causes of developmental delay in children and if not diagnosed and treated promptly it could result in speech delay. If hearing impairment could be detected and tested before 6 months of age, it will result in better speech performance.

**Methods:** This study was conducted in Prince Ali Hospital during the 6 month period between September and February 2010-2011.

All newborns delivered were sent at one week of age to the ENT clinic to do hearing assessment by acoustic emission technique.

**Results:** Newborns examined during this period were 4008. 40 initially had hearing impairment. 0.1% 19 were males. 21 were females.

**Conclusion:** Hearing loss is important to be diagnosed early. For normal speech development it should be diagnosed before 6 months of age.

**Muna Kawar**  
**Sufyan Al Ruode**

**Dr. Muna Kawar, Pediatrician**  
**Dr. Sufyan Al Ruode, ENT Doctor**

**Correspondence:**  
**Dr. Muna Kawar, Pediatrician,**  
**Prince Ali Hospital, Karak, Jordan**  
**Email: munaekawar@yahoo.com**

### Introduction

Hearing assessment is one of the important causes of developmental delay in children and, if not diagnosed and treated promptly it could result in speech delay.

If hearing impairment could be detected and treated before six months of age it will result in better speech performance.(1-4)

Hearing loss is one of the most common congenital anomalies, occurring in approximately 2-4 infants per 1000. Prior to implementation of universal newborn screening, testing was conducted only on infants who met the criteria of the high risk register (HRR). It was found that the HRR was not enough given that as many as 50% of infants born with hearing loss have no known risk factors.

Reliable screening tests that minimize referral rates and maximize sensitivity and specificity are now readily available.

Early identification and intervention can prevent severe psychological, educational and linguistic repercussions. Infants who are not identified before 6 months of age have delays in speech and language development. Intervention at or before 6 months of age allows a child with impaired hearing to develop normal speech and language, alongside his or her hearing peers.(5).

### Methods

This study was conducted in Prince Ali Hospital during the 6 month period between September and February 2010-2011.

All newborns delivered, either normal delivery or by Caesarian Section, were sent at 1 week of age to the ENT clinic to do hearing assessment by acoustic emission technique.

Also newborns who were admitted to the Intensive Care Unit, underwent hearing assessment after discharge.

History was taken as to whether there was a family history of hearing impairment and if there were other congenital anomalies.

Newborns who had a flat response in either ear were reassessed after 2 weeks.

### Results

Newborns examined during this period were 4008.

40 initially had hearing impairment, .1%

19 were males, 21 were females.

All patients who had a flat response were reassessed after 2 weeks.

In our study, we considered hearing impairment from the first examination.

3 of them had a positive family history of hearing impairment.

One had congenital abnormalities of both ears

Patients who were admitted to the ICU for any reason had no hearing impairment.

## Discussion

According to different studies, the incidence of hearing loss in the normal newborn population is 1-2 per 1000 live births. It was the same in our study, .1%

According to one study, the speech performance of the infants whose hearing problem was detected and treated before they were six months old was the same as normal age matched children.(1,2,6)

In another study performed in the Netherlands, the prognosis of children whose hearing impairment was diagnosed before they were 3 months old, and treated before the age of 6 months ,was very good (2). It was the same in our study, therefore we perform hearing assessment for all newborns at 1 week of age.

In another study done in Norway and Germany it was found that the prognosis was good if hearing impairment was diagnosed and treated before the age of 6 months (3,7).

All of these studies show the importance of early detection and treatment of hearing impairment in children. Unfortunately the age of detection of hearing loss is delayed even in developed countries if the screening for hearing impairment is not informed during the first few months of life (8). For example, in the United States the age of detection of severe hearing loss is 20-24 months of age and for mild to moderate hearing loss is around 4 years of age (9).

In one study performed in Norway, it was shown that hearing impairment will be missed in about 50% of the infants if the global screening is not performed (7).

In our study, all normal deliveries come to do hearing screening tests and some of the patients who were admitted to the NICU do not come and of the patients who fail to perform first exam, some of them do not come back.

There are several risk factors which are very important as precipitating events causing hearing impairment in the newborn and young infants, such as: prematurity and low birth weight, asphyxia, use of Aminoglycosides, hyperbilirubinemia, prolonged mechanical ventilation, bacterial meningitis, intra-uterine infections, craniofacial anomalies. (We had one case). (10-13)

The incidence of hearing impairment in high risk neonates, according to the different statistics is from 5-50 per 1000 live births (6,7).

In our study we had no single case of hearing impairment in a high risk neonate.

In another study, the incidence of hearing impairment of the infants who had at least one risk factor was very high in comparison to studies from other countries (2,6).

This difference was perhaps due to the referral nature of that center, which is one of the main units of admission of the high risk neonates in Tehran. Other factors which might have been significant in this difference were the lack of prenatal care, and inadequate facilities for measurement of serum drug levels, such as Aminoglycosides.

Perhaps the reason that we had a low incidence of hearing impairment in patients admitted to the NICU is because our hospital is a secondary hospital and that any complicated case is referred to KHMC.

Prior to the universal screening, the average age at which children were found to have hearing loss was 2-3 years. Children with mild to moderate hearing loss were often not identified until 4 years of age.(5)

Retrospective studies of large universal newborn hearing screening programs have shown that permanent hearing loss is one of the most common abnormalities present at birth. (5)

In 1999, the American Academy Of Pediatrics stated that significant bilateral hearing loss has been shown to be present in approximately 1-3 per 1000 newborns in the well baby nursery population ,and in approximately 2-4 per 1000 infants in the intensive care unit population (5).

In our study the incidence is less.

Use of HRR High Risk Register as the primary indicator for screening of newborns for hearing loss was inadequate.

In 1999 Finitzio and Crumely reported that according to the identification rates currently reported from widespread screening programs, approximately 8000-16000 newborns are born with hearing loss each year. Of these 50% are discharged home from the well baby nursery with no known risk factors for hearing loss.(5). Many states recommend that at risk children should be evaluated by an audiologist every 6 months for the first 3 years of life (5).

In 1995 Apuzzo found that infants identified when they were younger than 2 months had significantly higher language scores than those identified when they were older than 2 months, despite similar interventions in both groups (5) and by the age of 6 months acquired age appropriate vocal communicative and linguistic skills well before children who were identified at a later age.(5)

Neonatal hearing screening will not detect all cases of congenital hearing loss. It only provides an indication of the baby's hearing at the time of the screening. Mild hearing losses and hearing losses outside the main speech frequencies may not be detected .(14)



A study was done in Oregon health and science university, which showed that infants diagnosed to have significant hearing loss, who had no risk factors, varied from one-fourth to two-thirds.(15)

## Conclusion

Hearing loss is very important to be diagnosed early for normal newborns and high risk infants. For normal speech development hearing impairment should be diagnosed before six months of age and therefore a hearing screening test is very important for all newborns.

## References

1. Behram RE, Kliegman R, Jenson HB. Nelson Textbook of Pediatrics 16th edition Philadelphia: WB Saunders,2000
2. Homer JJ, Linney S, Strachan DR. Neonatal hearing screening using the auditory brainstem response .Clin Otolaryngol.2000;25:66-70
3. Oudesluys-Murphy A, VanStraaten HL, Ens-Dokkum MH, Kauffmane-de Beer MA, Neonatal hearing screening Ned Tijeschr Geneeskd.2000;144:594-8
4. Shehata-Delier WE, Dieler R, Keim R, Finkenzeller P, Diet J. Universal hearing screening of newborn infants with the BERA. Laryngorhinootologie,2000;79:69-76.
5. Ann M De Michele, PhD Newborn hearing screening University of Virginia Jun 15,2010.
6. Van Straaten H. Automated auditory brainstem response in neonatal hearing screening. Acta Pediatr.Suppl.1999;88:76-90.
7. Erenberg S. Automated auditory brainstem response testing for universal newborn hearing screening. Otolaryngol Clin North Am,1999;32:999-1007.
8. Morant Ventura A, Pitarch Ribes MI, Garcia CallejoFJ, Marco Algarta J. The delay on the diagnosis of deafness in children. Justification for the establishment of screening models .An Esp Pediatr.1999;51:49-52.
9. Chadha S, Bais A. Auditory brainstem responses in high risk and normal newborns .Indian J Pediatr. 1997;64:777-84.
10. Agrawal V, Shukla R, Misra P, Kapoor RK, MalikGK. Brainstem auditory evoked responses in newborn with hyperbilirubinemia. Indian Pediatr 1998;35:513-8.
11. Navarrow B, Gonzelez E, Marrero L .Prospective study with auditory evoked potentials of the brainstem in children at risk. An Esp Pediatr 1999;50:357-60.
12. Gupta AK, Mann SB. Is auditory brainstem response a bilirubin neurotoxicity marker? Am j ,Otolaryngol .1998; 19:232-6.
13. Bradford BC, Badin J. Conway MJ, Hazell JW, Stewart AL, Reynolds EO. Identification of sensory neural hearing loss in very preterm infant by brainstem auditory evoked potential Arch Dis Child 1985;60;105-9.
14. Fortnum HM ,Summerfield AQ, Marshall DH, Davis AC, Bamford JM, Prevalence of permanent childhood hearing impairment in the United Kingdom and implications for universal neonatal hearing screening. Br.Med J ,2001;323:536-40.
15. Mark Helfand M.D. M.S. Et al Newborn Hearing Screening ,Oregon Health and Science University



## Journey of Hope

The Journey of Hope is planned to start from Kuwait at 12:00 Noon on December 12, 2012 under the patronage of HH The Ruler of Kuwait. The Marine trip will include a group of self-advocates, special Olympics World Champions and their parents. The trip will sail in the Arabian Gulf to the Oman Sea, to the Red Sea then through the Suez Canal to the Mediterranean Sea then to the Atlantic Ocean. It will be sailing back on March 13. The boat is planned to make a stopover in one port of each country. At the stopover in each port there will be celebrations, festivals, and a national event. During the events several activities will take place as well as speeches. The aim is to generate a mass media campaign to promote the human rights for persons with disabilities and their families.



The young Kuwaiti Mishal Bader Jassim Al-Rashid, who was born with Down syndrome is the first Down's diver in the country with achievements locally, regionally and globally in the sport.

Journey Of Hope is a daring experience carrying a global humanitarian and heartfelt message for the benefit of those with intellectual disability.

Under the Patronage of H.H. Sheik Sabah Al-Ahmed Al-Jaber Al-Sabah the Amir of The State of Kuwait, at 12p.m. 12/12/012 a sailing expedition will begin from Kuwait heading towards Washington D.C. and back with the sole purpose of raising awareness of its cause and spreading its message. We hope that everyone will support this great journey.



The Board is tasked with approving the work plan and providing advice to the executive team. The Board supervises all administrative steps of the journey and follows up on the progress of implementation. It reviews and approves financial and management reports submitted by Consultants and the executives.



The idea was conceived by a group that has been working under the title of "The Special team for Sporting, Social, Media and Cultural Activities dedicated to the intellectually disabled" since 2003. Comprised of parents that experienced great success in dealing with their intellectually disabled children who are inflicted with cases such as Down Syndrome and Autism. Although their activities were based in Kuwait, their influence and reach has spread to other countries. The group concluded that their message needed to echo to the masses worldwide and wish to crown their initiative with a global expedition. More than their personal initiative, the aim of the Journey is to bring into light Kuwait's contributions and advances care for special needs. It is aimed at bringing international awareness to the Country's initiatives as a whole.

- To illustrate Kuwait's approach, advancement and care dedicated to those suffering from intellectual disabilities.
- To bring awareness to the extraordinary abilities of the intellectually disabled at performing heroic acts

- To unify people of all cultures and religions towards a collective effort to care for and benefit those with intellectual disability everywhere
- To draw attention to the importance of social responsibility and that communities can support the needs of the intellectually disabled.
- To strive towards elimination of home isolation cases
- To educate the masses on how the intellectually disabled can be integrated into the community by refining their skills and talents.
- To assist parents overcoming difficulties in dealing with their intellectually disabled children, this includes support with psychological problems that they can be faced with having a newborn with intellectual disability.
- To highlight the achievements and talents of the intellectually disabled in an attempt to raise their confidence and change the misconceptions of their capabilities held by the masses.
- To introduce voluntary entities that specialize in the care of the intellectually disabled and support the continuation of their efforts
- To disseminate the concepts and importance of the volunteering efforts, highlighting their impacts in an attempt to encourage the masses to participate.
- To illustrate the positive impacts and cultural value added when the support of government agencies and private organizations are put into practice.
- To encourage campaigns that support pre-marital screening.

### **Journey Implementation:**

The Special Team will design the vessel that will be used on the journey in compliance with strict international specifications and standards in all technical aspects.

All tasks included in the implementation will be carried out by members of the team themselves.

Funding is generated mainly from the community itself (individuals, organizations, private companies and NGO's)

### **Associated Journey Objectives:**

1. To launch local and overseas campaigns collecting donations for the benefit of community organizations and associations which sponsor and support those affected by intellectually disabled illnesses. These campaigns will be active before, during and after the journey.
2. To orchestrate a series of celebratory events beginning with one honoring the start of the journey then at intervals in all ports en route. These events will be organized in co-ordination with relevant international organizations.
3. To arrange local, regional and international media coverage of the journey from its start to its return to Kuwait. In co-operation with our sponsors, coverage will be promotional in nature and will be implemented by experts and specialists in the field of advanced public relations and media.

### **Project (23 Months):**

12 Months for the design of the vessel starts from October 2011.

then preparation, testing and pre-journey media coverage until 12 December 2012.

6 Months for the round trip journey.

Upon arrival to the United States, the ship will first dock in New York, where a special ceremony will be held in coordination with the United Nations.

The Following destination will be Washington D.C., where the Team will deliver a document containing the objectives of the journey to the headquarters of the Special Olympics Committee, which is the largest voluntary athletic organization in the world, dealing with intellectually disabled people. The Team will officially thank the Committee for its support and sponsorship of this segment at a grand event to be attended by senior American officials and covered by local, foreign and international media.

### **Onward to Washington D.C.**

Entries in the journey log will show the following countries and ports:

Kuwait - Saudi Arabia - Bahrain - Qatar - UAE - Oman - Yemen - Jordan - Egypt - Libya - Malta - Tunisia - Algeria - Morocco - Canary Island - Mauritania - Capr Verde Island - Bermuda - USA (New York and Washington, D.C.) .



## CASE HISTORY AND CME QUIZ

### Case history

(from Palliative Care CD ROM, medi+WORLD International)

**Introduction:** Mrs Green is a fifty year old married lady who has a twenty five year old son. She is a former nurse with a passionate interest in complementary and alternative therapies. She writes books and poems and runs a meditation group from her secluded home in the mountains. She lives with her husband, who works full time as an architect, and her two cats.

Mrs Green was diagnosed with breast cancer six years prior to seeing you. She elected to have alternative treatments in Mexico, as well as a short course of radiotherapy and chemotherapy. She declined surgery.

You were working for Mrs Green's general practitioner at the time the cancer was diagnosed as you have known her for only six months. During this time you have provided supportive counselling regarding her long standing communication problems with her husband and son.

One morning Mrs Green telephones you at the surgery and requests a home nursing visit. She tells you her right hip has been painful for one week. You schedule a long home visit for that day.

There has been no history of trauma to Mrs Green's hip. When the pain has been particularly bad, she has taken paracetamol tablets once or twice a day and they helped relieve the pain.

The GP saw Mrs Green several days ago, when you were on leave and ordered an X-ray of her right hip. The X-ray findings were normal.

### Question 1

**How do you now manage Mrs Green?**

Select one or more of the following:

- ☐ **A.** Arrange for Mrs Green to have a bone scan.
- ☐ **B.** Commence Mrs Green on a non-steroidal anti-inflammatory drug
- ☐ **C.** Advise Mrs Green to take paracetamol 500mg 1-2 tablets 4 hourly when needed for pain until further review.

### Answer 1 and feedback

#### A. The authors agree

Given her history of breast cancer, bony metastases are the likely cause of her hip pain.

A bone scan is the most appropriate way of diagnosing bony secondaries.

#### B. The authors agree

A non-steroidal anti-inflammatory drug (NSAID) such as Naproxen 500mg bd or Ibuprofen 400 mg tds is considered to be the initial treatment of choice for bony metastases.

Since you suspect bony metastases, it is worth prescribing an NSAID while waiting for the bone scan result, providing there are no contraindications. (eg history of peptic ulcer).

#### C. The authors disagree

It is not appropriate to prescribe analgesics for cancer pain on a purely 'as needed' basis. If a non-steroidal anti-inflammatory drug is contraindicated, then one or two 500mg tablets of paracetamol should be prescribed regularly, ie. 4 hourly, in order to prevent pain. (Maximum dosage is 8 tablets per day).

### Further history

Given that Mrs Green's pain has responded to prn doses of paracetamol, it is likely that 4 hourly paracetamol would control her pain. If 4 hourly paracetamol does not control her pain, then Mrs Green needs to be told to report this to you.

If Mrs Green's pain is not well controlled, initiate an opioid, such as morphine or oxycodone, rather than codeine. Morphine and oxycodone are much more flexible than codeine in terms of dose escalation.

Once the cause of the pain is established, appropriate adjuvant analgesics (eg. corticosteroids) and other modalities (eg. radiotherapy) should be considered.

The bone scan confirms an isolated metastasis in Mrs. Green's right hip.

### Breaking bad news

Consider the following three scenarios:



1. Doctor standing at end of bed with arms folded



2. Telling Mrs Green via telephone



3. Sit on bed next to Mrs Green

**Question 2**

Consider which of the three scenarios demonstrates the most appropriate way of breaking bad news to Mrs. Green and why?

**Answer 2 and feedback**  
**Scenario 1**
**The authors disagree**

The scenario 1 has the following problems:

- The doctor appears distant and uncomfortable
- He uses minimal eye contact and his folded arms create a closed posture
- He stands at the end of the bed rather than sitting down next to the patient.

**Scenario 2****The authors disagree**

When breaking bad news, it is important for the doctor to assess the patient's emotional response and provide appropriate support. This cannot be done over the telephone.

**Scenario 3****The authors agree****Feedback**

Important aspects of breaking bad news include:

- Delivering bad news face to face in a quiet, private place.
- Giving patients the option of having a 'significant other' person present.
- Ensuring the consultation is unhurried, uninterrupted and of sufficient length.
- Sitting at the patient's level.
- Maintaining eye contact.
- Giving information in lay terms, rather than using medical jargon.
- Giving the patient permission to express their feelings.
- Using silence, where appropriate, to facilitate this process.
- Reinforcing information delivered verbally by handing patient written information - whenever possible. (It is not unusual for shocked or distressed patients to forget much of what has been said to them by their doctor).
- Supporting the patient and

reassuring them, when appropriate.

- Promoting patient confidence by informing them they will receive the best treatment possible.
- Ensuring the patient has the opportunity to have all their questions answered.
- Using the word 'cancer' directly.

Remember patients usually prefer to be given bad news by a familiar doctor with whom they have a good rapport.

**Imagine you are Mrs Greens' Doctor...**
**Question 3**

Which of the following statements about morphine are true?

Select one or more of the following

☐ **A. Cancer patients commonly develop rapid tolerance to the analgesic effect of morphine.**

☐ **B. There is a ceiling dose for morphine given to patients with cancer pain.**

☐ **C. Oral morphine causes significant respiratory depression in the majority of cancer patients.**

☐ **D. Morphine use in cancer patients carries a high risk of psychological dependence.**

☐ **E. Under dosing with morphine is the main reason cancer patients suffer unrelieved pain.**

**Answers and feedback****A. The authors disagree.**

Increases in opioid doses in palliative care patients are probably due either to increasing nociceptive pain signals due to disease progression and/or tolerance. Tolerance is a pharmacodynamic property in which an increase in dose is required to produce the same level of effect. Some degree of tolerance probably occurs in most patients who receive opioids during the course of a terminal illness, so the therapeutic index may decrease. However this tends to be a gradual process rather than a rapid one. Tolerance is not considered to be a barrier to the provision of adequate analgesia.

**B. The authors disagree.**

There is no ceiling dose for morphine in the management of cancer pain. The individual patient's analgesic needs should determine the way in which the morphine dose is titrated. The correct morphine dose is one that results in pain control without the presence of intolerable side effects. It is also important not to continue escalating the dose of morphine if the response is minimal or short term. In such cases, a different approach to pain management is required, ie. the use of other analgesic drug classes, route changes, interventions (eg. neurolysis) or treatment of the underlying disease.

**C. The authors disagree.**

In practice, significant respiratory depression is uncommon in patients where the morphine dose is gradually titrated according to individual needs. Respiratory pain can be reversed by giving naloxone, but this may precipitate severe pain.

Exceptions include:

- patients at risk of respiratory failure from other causes
- patients with impaired renal function
- opioid naïve patients
- patients receiving an excessive dose of morphine and/or too often
- patients who have had a procedure (eg. nerve block) to acutely relieve their pain.

**D. The authors disagree.**

As the risk of psychological dependence in cancer patients taking morphine is extremely low, fear of addiction should not be a reason to delay prescribing it. One needs to bear in mind that the majority of cancer patients will remain on a regular opioid until they die, so the issue of addiction does not arise. If the drug needs to be ceased, this can be done gradually (e.g. reducing the amount by 20-25% per day) so that effects of psychological dependence are avoided or minimised.

Exception: A small number of patients with a past history of drug abuse or psychiatric illness.

#### E. The authors agree.

Unfortunately a varying degree of apprehension or reticence about using opioid drugs still exists amongst some doctors and patients. Doctors who still believe some or all of the common morphine myths may be reluctant to prescribe adequate doses.

Morphine, used appropriately, does not hasten death.

#### Question 4

**Which of the following statements about morphine are true?**

Select one or more of the following:

- ☐ A. Cancer patients commonly develop rapid tolerance to the analgesic effect of morphine.
- ☐ B. There is a ceiling dose for morphine given to patients with cancer pain.
- ☐ C. Oral morphine causes significant respiratory depression in the majority of cancer patients.
- ☐ D. Morphine use in cancer patients carries a high risk of psychological dependence.
- ☐ E. Under dosing with morphine is the main reason cancer patients suffer unrelieved pain.

#### Answers and feedback

##### A. The authors disagree.

Increases in opioid doses in palliative care patients are probably due either to increasing nociceptive pain signals due to disease progression and/or tolerance. Tolerance is a pharmacodynamic property in which an increase in dose is required to produce the same level of effect. Some degree of tolerance probably occurs in most patients who receive opioids during the course of a terminal illness, so the therapeutic index may decrease. However this tends to be a gradual process rather than a rapid one. Tolerance is not considered to be a barrier to the provision of adequate analgesia.

##### B. The authors disagree.

There is no ceiling dose for morphine in the management of cancer pain. The individual patient's analgesic needs should determine the way in which the morphine dose is titrated. The correct morphine dose is one that results in pain control without the presence of intolerable side effects. It is also important not to continue escalating the dose of morphine if the response is minimal or short term. In such cases, a different approach to pain management is required, ie. the use of other analgesic drug classes, route changes, interventions (eg. neurolysis) or treatment of the underlying disease.

##### C. The authors disagree.

In practice, significant respiratory depression is uncommon in patients where the morphine dose is gradually titrated according to individual needs. Respiratory pain can be reversed by giving naloxone, but this may precipitate severe pain. Exceptions include:

- patients at risk of respiratory failure from other causes
- patients with impaired renal function
- opioid naïve patients
- patients receiving an excessive dose of morphine and/or too often
- patients who have had a procedure (e.g. nerve block) to acutely relieve their pain.

##### D. The authors disagree.

As the risk of psychological dependence in cancer patients taking morphine is extremely low, fear of addiction should not be a reason to delay prescribing it. One needs to bear in mind that the majority of cancer patients will remain on a regular opioid until they die, so the issue of addiction does not arise. If the drug needs to be ceased, this can be done gradually (e.g. reducing the amount by 20-25% per day) so that effects of psychological dependence are avoided or minimised.

Exception: A small number of patients with a past history of drug abuse or psychiatric illness

#### E. The authors agree.

Unfortunately a varying degree of apprehension or reticence about using opioid drugs still exists amongst some doctors and patients. Doctors who still believe some or all of the common morphine myths may be reluctant to prescribe adequate doses.

Morphine, used appropriately, does not hasten death.

#### Question 5

**Which of the following statements about morphine are true?**

Select one or more of the following:

- ☐ A. The early use of morphine for cancer patients reduces the likelihood of it being useful later.
- ☐ B. A withdrawal syndrome is difficult to avoid if the dose of morphine is gradually reduced before complete cessation.
- ☐ C. Severe pain requires parenteral morphine, even if a patient can swallow.
- ☐ D. Morphine should be given on an 'as required' basis in chronic cancer pain.
- ☐ E. Patients do not become tolerant to the sedative effects of morphine when it is used to treat chronic cancer pain.

#### Answers and feedback

##### A. The authors disagree.

Morphine has a wide therapeutic range, so it can be titrated according to the need of each individual patient.

There are many cancer patients who take morphine for several years before their death. The dose of morphine is simply increased as/if required.

##### B. The authors disagree.

The main reason for ceasing morphine in a cancer patient would be that pain relief had been successfully achieved by another treatment, eg. surgery or radiotherapy. If the patient's dose of



morphine was gradually reduced by 20-25% per day, then withdrawal symptoms should be minimised or avoided.

### C. The authors disagree.

Analgesics should be prescribed orally whenever possible.

Oral morphine is as effective in providing analgesia as the equivalent dose of parenteral morphine. (The oral to parenteral conversion ratio for morphine is 3:1).

### D. The authors disagree.

To effectively prevent pain, analgesia is best given regularly rather than as required.

Analgesia also needs to be prescribed on as as needed (prn) basis for breakthrough or incident pain eg. prior to showering.

### E. The authors disagree.

It is not unusual for patients to feel drowsy during the first few days of commencing morphine, however the drowsiness is generally mild and tends to settle within several days.

### Further Information

In order to facilitate compliance, it is important patients be informed of this side effect. They should also be assured the drowsiness is likely to improve in 2-5 days and it is worth persevering with the treatment.

In summary, it is essential the treating doctor dispels any myths their patient may have regarding the taking of morphine. It is also important to emphasise that patients can live for a long time while taking morphine, and how it can improve quality of life by providing good pain control.

### Further history

Mrs Green agrees to commence oral morphine after her concerns have been addressed. She also continues to take Naproxen tablets, 500mg bd.

**Given that Mrs Green is "opioid naive" (is not currently taking any opioids), what dose of morphine mixture (immediate**

**release morphine = IRM) would you prescribe for the next 24 hours, and how often should it be administered?**

Write your answer in the box provided, then compare with the author's answer.

### Authors answer

- Morphine mixture 5 - 10 mg 4 hourly
- 10mg morphine mixture is the usual starting dose for a 50 year old opioid naive patient.
- Morphine mixture is available in the following strengths: 1mg/ml., 5mg/ml., 10mg/ml, 20 mg/ml and 40 mg/ml.
- Effective management of cancer pain involves giving analgesia at regular intervals rather than when required.
- The aim is to prevent the pain recurring before the next dose of analgesia is taken.

### Question 6

**Which of the following statements is/are TRUE of the dose of morphine mixture in an opioid naive patient?**

### Statement 6A

**An elevated creatinine of 300 mmol/L would not alter my starting dose of morphine.**

True [ ]  
False [ ]

### Answer 6A

**The statement is FALSE.**

The major metabolites of morphine are dependent on renal excretion. Therefore a patient with impaired renal excretion needs a lower starting dose of morphine than a patient with normally functioning kidneys.

### Statement 6B

**It is appropriate to initiate a lower than usual dose of morphine mixture eg. 2.5 - 5 mg 4 hourly for a frail 75 year old lady.**

True [ ]  
False [ ]

### Answer 6B

**This statement is TRUE.**

Start with a lower dose in an elderly and/or frail patient. The major metabolites of morphine are dependent on renal excretion. An elderly frail patient is more likely to experience side-effects such as confusion or drowsiness if they are commenced on the standard morphine dose. Reasons for this could include renal impairment, low body weight and multiple drug interactions.

### Statement 6C

**It is appropriate to make the same percentage increase in the daily dosage of morphine mixture in a frail 75-year-old patient as for a 50-year-old patient.**

True [ ]  
False [ ]

### Answer 6C

**This statement is FALSE.**

Increasing the dose of regular 4 hourly morphine mixture slowly and gradually by approximately 30% rather than the usual 50% is appropriate in managing a frail and/or elderly patient's pain. The major metabolites of morphine are dependant on renal excretion. An elderly, frail patient is more likely to experience side effects such as confusion or drowsiness if the regular dose of morphine is increased too quickly. Reasons for this could include renal impairment, low body weight and multiple drug interactions.

### Question 7

**What dose of morphine mixture prn (if any) would you prescribe for Mrs Green's breakthrough pain on the day that you initiate regular morphine mixture ?**

Write your answer in the box provided, then compare with the author's answer.

### Answer 7

Morphine mixture 5 mg orally pm for extra pain.

The goal of treatment is to achieve the best possible pain control.

It is therefore necessary to prescribe a breakthrough dose of morphine to supplement the regular 4 hourly dose in case the patient experiences pain between the regular doses of morphine. This breakthrough dose is prescribed prn and is an important strategy in managing pain. It enables a more rapid attainment of an effective dose of morphine and is important in managing incident pain eg. prior to showering. It is also likely to save you from being telephoned in the middle of the night by a palliative care nurse requesting a prn morphine order.

Some palliative care doctors choose to initiate oral morphine in opioid naive patients using sustained release preparations such as Kapanol or MS Contin.

### Question 8

**What dose of sustained release morphine would you prescribe for Mrs Green?**

Write your answers in the boxes provided, then compare with the authors' answer.

Sustained release morphine

mg bd or

mg daily.

### Answer 8

Available sustained release of morphine are:

\* kapanol 10, 20, 50, 100 mg capsules daily or bd.

\* Ms contin 5, 10, 30, 60, 100, 200

mg tablets bd.

\* Ms mono 30, 60, 90, 120 mg capsules daily

The standard starting dose of sustained release morphine for opioid naive patients is generally considered to be 20 mg bd or 40 mg daily.

### Question 9

**What dose of morphine mixture prn (if any) would you prescribe for breakthrough pain if you planned to initiate sustained release morphine in the form of Kapanol 20mg bd or 40 mg daily?**

Write your answer in the box provided, then compare with the authors' answer.

mg prn

### Answer 9

Morphine mixture 5 mg orally prn for extra pain.

It is essential to prescribe a top-up dose of morphine mixture to supplement the regular dose of sustained release preparations of morphine. The goal of treatment is to achieve the best possible pain control. It is therefore essential to prescribe a breakthrough dose of morphine mixture to supplement the regular 4 hourly dose in case the patient experiences pain between the regular doses of morphine. This breakthrough dose is prescribed prn and is an important strategy in managing uncontrolled pain.

### Question 10

**In the past, Mrs Green has experienced nausea from both pethidine (given during labour) and panadeine forte, prescribed for the pain of impacted wisdom teeth many years ago.**

**Should a regular anti-emetic be prescribed for Mrs Green when morphine mixture is initiated?**

Yes [ ]

No [ ]

### Answer 10

Yes.

Given her past history of anausea from two different opioids, it would be appropriate to prescribe a regular prophylactic anti - emetic when morphine was initiated. Example of anti - emetic include: - maxolon (metoclopramide) 10 mg tablets qid - stemetil (prochlorperazine) 5 mg tablets tds or qid - Haloperidol 0.5 mg - 1 tablet tds.

The anti - emetic can be discontinued after 5 to 7 days, as the vomiting centre is likely to have settled by then.

### Question 11

**Would you prescribe a prophylactic laxative for Mrs Green?**

Yes [ ]

No [ ]

### Answer 11

Yes. The aim of prescribing a laxative with opioids is to prevent the almost universal predictable side effect of constipation. Examples of prophylactic laxative are: -

Coloxyl with senna 1- 2 tablets daily, up to tds, or

Lactulose or sorbitol 20 mls daily up to tds.

### Further history

Mrs Green is commenced on 10mg morphine mixture 4 hourly (at 0630, 1030, 1430 and 1830). She is also ordered a double dose at 2230 with the aim of keeping her pain free overnight. She also takes four top up doses of 5mg morphine mixture over 24 hours.

### Question 12

**If after 24 hours, Mrs Green's pain had improved by about 50%, how much morphine would you prescribe over the next 24 hours? (include your dose of morphine mixture prn).**

Write your answers in the boxes provided, then compare with the author's answers

mg +

mg prn.

### Answer 12

15 mg morphine mixture 4 hourly (at 0630, 1030, 1430 & 1830) and 30 mg at 2230, plus morphine mixture 5 mg prn.

Mrs Green took 80 mg morphine over the previous 24 hours (10+10+10+10 +20+5+5+5+5). It is usual to increase the regular 4 hourly dose of morphine by 30 - 50% depending on clinical observation, breakthrough requirements, incident pain and physiological parameters such as renal function.

Recommended dose escalations for regular 4 hourly morphine mixture are as follows:

5mg ▶ 10mg  
10mg ▶ 15mg  
15mg ▶ 20mg  
20mg ▶ 30mg

The breakthrough range for morphine mixture 2-4 hourly prn is usually 30-50% of the regular hourly dose.

### Question 13

Some patients who are prescribed regular 4 hourly morphine mixture may not understand the concept of top-up/breakthrough doses. This means they do not take any top-up doses, and their pain remains poorly controlled.

**If Mrs Green was such a patient, what dose of morphine would you order for her over the next 24 hours if the original regular dose was 10mg morphine mixture 4 hourly?**

Write your answer in the box provided, then compare with the author's answer.

mg 4 hourly.

### Answer 13

15 mg 4 hourly, that is a 30 - 50% dose increase.

Recommended dose escalations for regular 4 hourly morphine mixture are as follows:

5mg 10mg  
10mg 15mg  
15mg 20mg  
20mg 30mg

### Question 14

**If Mrs Green's pain was well controlled on the original total daily dose of 80mg immediate release morphine mixture, what dose of sustained release morphine mixture would you convert her to?**

Type your answers in the boxes provided, then compare with the author's answers.

### Kapanol

mg 4 daily.

### MS Contin

mg bd.

### Answer 14

- The total daily dose is 80 mg. So give Kapanol 80 mg (10 + 20 + 50 capsules) daily or MS Contin 40 mgbd (10 + 30 mg tablets).
- Do not mix Kapanol and MS Contin as they have different pharmacokinetic profiles.
- Do not forget to continue the 5mg top-ups of morphine mixture prn.

### Question 15

Mrs Green is having a total daily morphine dose of 80mg.

**What would be the equivalent dose of morphine if it was given**

**as a continuous subcutaneous infusion?**

Type your answer in the box provided, then compare with the author's answer.

mg

### Answer 15

Given that Mrs Green's total daily dose of oral morphine is 80 mg and the oral bio-availability of morphine is effectively 30%, divide 80 by 3 = 27 mg per 24 hours in a syringe driver. This dose would then be rounded up to 30 mg per 24 hours. Some palliative care units divide the total daily dose of oral morphine by 2, rather than 3 when calculating an equivalent continuous subcutaneous infusion dose of morphine.

### Further history

On the last day of her two-week radiotherapy course, Mrs Green becomes progressively drowsy and is mildly nauseated on Kapanol 80mg daily. She is no longer on an anti-emetic.

Physical examination reveals the following signs:-

- Right hip pain virtually gone.
- Small pupils.
- Decreased respiratory rate

### Question 16

**What is the likely explanation for these physical findings?**

### Answer 16

Mrs Green has symptoms of a morphine overdose, her daily morphine requirement has reduced, because of the palliative radiotherapy's analgesic effect. The radiation response usually takes 2 - 3 weeks to occur.



**Action:** Mrs Green's daily dose of morphine is reduced, and her daily dose of morphine is reduced and her daily dose of morphine stabilises on Kapanol 20mg bd.

**Lesson:** The dose of morphine does not necessarily need to be increased. Regular review of morphine doses is important, especially in patients who receive palliative radiotherapy

#### Further information

Let us assume Mrs Green's pain is well controlled with morphine. However she subsequently develops intractable nausea, confusion and drowsiness. Her symptoms are assessed as being opioid related, after excluding other causes. (ie. brain metastases, hypercalcaemia and renal failure).

There are three different management options:

- Reduce the dose of morphine
- Change the route of morphine (e.g. from oral to continuous subcutaneous infusion)
- Change morphine to a different opioid (opioid substitution)

Option one is likely to result in a return of Mrs Green's pain. She is not keen to have a syringe driver at this stage, and you elect to do an opioid substitution. This involves changing a patient with unacceptable, refractory adverse effects of one opioid to a different opioid. The aim of this is to improve any adverse side effect(s) while maintaining an equivalent dose of analgesia.

**Reference:** Ashby M.A., Martin P., Jackson K.A. Opioid substitution to reduce adverse effects in cancer pain management. MJA 1999; 70: 68-71.

#### Question 17

**What analgesic could be used as an alternative to morphine, and in what form should it be administered ?**

**How do you convert the dose of Kapanol 20mg bd to the new analgesic?**

Write your answer in the box provided, then compare to the author's answer.

#### Answer 17

Oxycodone would be an appropriate alternative to morphine. Oxycodone is available in a sustained release formulation called oxycontin in the form of 10 mg, 20 mg, 40 mg, 80 mg tablets, given bd. The conversion ratio of morphine to oxycodone is 1 : 1. Therefore kapanol 40 mg bd could be changed to oxycontin 40 mg bd.

#### Further information

Each patch provides analgesia for 72 hours. Serum levels rise slowly and do not peak for 12-24 hours. It is therefore important that the previously used opioid is continued for the first twelve hours of introducing fentanyl.

#### Formulation of morphine

- Oral: slow release
- Oral: immediate release
- Continuous subcutaneous infusion

#### How to change to fentanyl patch

- Apply first patch at same time as final 12 hourly dose of morphine is taken
- Continue 4 hourly morphine liquid for next 8 - 12 hours
- Continue subcutaneous morphine infusion for 8 - 12 hours

#### Question 18

**If Mrs Green was taking 120mg of slow release morphine per day, what would be the equivalent dose of transdermal fentanyl?**

Write your answer in the box provided, then compare to the author's answer.

#### Answer 18

The starting dose of transdermal fentanyl is calculated from the previous 24 hours dose of morphine or oxycodone (refer to product information and to next slide).

To work out the dose of Fentanyl skin patch, multiply X by 25 ug/hr.

**Answer**  $160/90 = 1.77$

Rounded off to the nearest whole number = 2.

$X = 2$

$X \times 25\text{ug/hr} = 50 \text{ ug patch}$

PMDE mg/24hrs OMDE mg/24hrs  
Strength of transdermal fentanyl patch = delivery rate (ug/hr)

40 120 Durogesic 25  
80 240 Durogesic 50  
120 360 Durogesic 75  
160 480 Durogesic 100

PMDE Parenteral morphine dose equivalent (70:1 conversion ratio (not 100:1) derived from Paix, A., Coleman, A., Lees, J., et al., Subcutaneous fentanyl and sufentanil infusion substitution for morphine intolerance in cancer pain management. Pain 1995, 63:262 — 263) OMDE Oral morphine dose equivalent, PMDE x 3. NB — Some services employ a 2:1 ratio for the conversion of oral to subcutaneous route.

Using the Table, (top of next page) one can see that the equivalent dose of transdermal fentanyl for a patient on a 24 hour oral morphine dose of 120mg would be the 25ug patch. It is important to note that many authorities now believe that it is safe to commence patients on the smallest patch (25ug/hr) at 24 hour oral morphine doses of around 50 mg.

PMDE mg/24hrs	OMDE mg/24hrs	Strength of transdermal fentanyl patch = delivery rate (ug/hr)
40	120	Durogesic 25
80	240	Durogesic 50
120	360	Durogesic 75
160	480	Durogesic 100

Clearly there is a range of experiences, but caution is required. If a general practitioner finds themselves in the situation of having to initiate transdermal fentanyl, then it is recommended that the appropriate dose be discussed with a palliative care specialist.



Mrs Green's other problem is a disfiguring, malodorous, weeping, infected fungating tumour of her right breast. She is very self-conscious of the odour.

### Question 19

**Which of the following actions would you take?**

Select one or more of the following

- ☐ **A. Arrange a referral to a radiation oncologist**
- ☐ **B. Prescribe oral metronidazole 400 mg tds**
- ☐ **C. Arrange for daily dressings to be changed by a district nurse or palliative care nurse**

### Answer 19

#### **A. The authors agree.**

Fungating tumours of the breast are frequently associated with a strong odour and can cause pain and disfigurement. Palliative radiotherapy can provide symptom relief as well as a significant reduction in tumour size. It is therefore worthwhile seeking an opinion as to the benefits of radiotherapy in Mrs Green's case. Occasionally patients who have been resistant to orthodox medical treatments change their minds. It is important for these patients to feel their decisions are respected and they do not feel judged by their doctor.

#### **B. The authors disagree.**

In this situation the first choice would be a local application of metronidazole gel as it should reduce the odour by treating the anaerobic infection. If the gel failed to adequately treat the problem, then metronidazole could be given orally (400mg tds), or rectally (1g 8-12 hourly).

#### **C. The authors agree.**

Keeping fungating tumours dry, clean, and free of infection usually relieves the pain and odour.

Non adherent dressings (eg. melonin) can absorb the exudate. These should be changed regularly.

#### **Information on dressing**

Bleeding can be minimised by using alginate dressings. If bleeding occurs it can be managed by using adrenaline soaked gauze (1:1000).

Tubular elastic netting can be used to hold the dressing in place.

If in doubt, a referral to a specialist wound nurse is advisable. Some public hospitals have a wound clinic, staffed by specialist wound nurses. Alternatively, local general practice divisions may be able to advise general practitioners of wound nurses who assess and treat patients at home.

#### **Further history**

If Mrs Green is willing to be referred to a community based palliative care team, then the daily dressings could be done by a palliative care nurse.

If, on the other hand, Mrs Green refused such a referral, the daily dressings could be done by a district nurse.

Mrs Green is given the option of being visited by either a palliative care nurse or yourself, a district nurse. She says she is not ready to see anyone from a palliative care service yet, and agrees to your visits from the district nursing service.

You visit Mrs Green regularly over the next few months. Her pain is well controlled and the odour

from her wound is significantly less. She continues to have her wound dressings changed daily by the district nurse.

Mrs Green has resumed some writing and continues to hold meditation classes at home. Your main role at this stage is to provide psychological support.

Which of the following risk factors are associated with psychological problems in breast cancer patients? Select one or more of the following

#### Question 20

**Which of the following risk factors are associated with psychological problems in breast cancer patients?**

Select one or more of the following

- ☐ A. poor social support
- ☐ B. financial difficulties
- ☐ C. interpersonal problems
- ☐ D. past history of psychiatric problems
- ☐ E. lymphodaemia
- ☐ F. advanced disease
- ☐ G. increasing pain
- ☐ H. increasing side effects from treatment

#### Answer 20

All options are correct.

**Reference:** NHMRC National Breast Cancer Centre's Psychosocial Clinical Practice Guidelines: providing information, support and counselling for women with breast cancer. December 1999, p49.

#### Further management

You discuss the benefits of attending a breast cancer support group with Mrs Green. She is aware of psychiatrist Professor David Spiegel's landmark study \*

This study demonstrated that women with metastatic breast cancer who attended group therapy classes and medical treatment, survived an average of 18 months longer than those who received medical treatment alone.

Spiegel and colleagues are currently conducting a similar study to see if these results can be replicated.

**\* Reference:** Spiegel D et al. Effect of psychosocial treatment on survival of patients with metastatic breast cancer. Lancet 1989, 888-991.

#### Further history

Mrs Green acknowledges the benefits of support groups but feels the effort involved in travelling time would be too great. Instead she elects to have counselling from a nearby psychologist with a special interest in cancer patients and their families.

Mrs Green plans to continue seeing you on a regular basis. The main issues she wishes to deal with are her strained relationship with her husband and son.

You offer to assist in finding a volunteer driver from the local palliative care service for transport to the psychologist, however she would rather a friend do it.

Mrs Green finds the opportunity to express her dissatisfaction over her husband's and son's behaviour towards her to be very helpful. She continues to hold meditation classes at home.

Several months later, Mrs Green's husband calls and requests an unscheduled home visit.

Mrs Green has had a four day history of increasing confusion, anorexia, nausea, vomiting and generalised aches and pains. Mr Green is finding it extremely difficult to manage his wife at home.

#### PHYSICAL EXAMINATION REVEALED THE FOLLOWING

##### Confusion and agitation

- Mini mental state examination 18/30 (normal range 24-30/30)

*(The mini mental state examination is a widely used method to assess the cognitive mental status of patients).*

- Orientation, attention, immediate and short-term recall, language and the ability to follow simple verbal and written commands are assessed.

- A total score which places the individual on a scale of cognitive function is obtained.

- Clinically 5% dehydrated

- No abdominal tenderness

- Mild hyporeflexia and hypotonia but no lateralising neurological deficit.

**Ref:-** Folstein MF, Folstein SE, McHugh PR: Mini-mental state. A practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res 1975; 12: 189-98.

You recommend Mrs Green be admitted to a palliative care unit for symptom control and respite. Mr & Mrs Green agree to this. You telephone the nearest palliative care unit and, after confirming the availability of a bed, arrange for an ambulance to take Mrs Green there as soon as possible.

#### Question 21

**What are the two most common metabolic causes of nausea and vomiting in a patient with metastatic carcinoma?**

Write your answer in the box provided and then compare with the author's answer.

#### Answer 21

Uraemia.

Hypercalcaemia.

#### Question 22

**Name up to seven possible causes of delirium in a patient with metastatic carcinoma.**

Write your answer in the box provided on the next page and then compare with the author's answer.



**Answer 22**

Cerebral metastases  
 Uraemia.  
 Hypercalcaemia.  
 Hepatic encephalopathy  
 Hypoxia  
 Sepsis  
 Drug induced eg. opioids

**Question 23**

**If you were a palliative care medical officer, what initial investigations would you arrange for Mrs Green following her arrival at the palliative care unit?**

Type your answer in the box provided and then compare with the author's answer.

**Answer 23**

Full blood examination, urea and electrolytes, creatinine, calcium, liver function tests, and a midstream urine test. A chest X-ray could also be considered if there were signs and/or symptoms of a chest infection.

**Further history**

For the results of Mrs Green's investigations see table top of next column:

**Question 24**

**What is the initial diagnosis?**

Write your answer in the box provided and then compare with the author's answer.

The results of Mrs Green's investigations were as follows:

		UNITS	NORMAL RANGE
Sodium	131	mmol/L	135-145
Potassium	4.8	mmol/L	3.5-5.5
Urea	11.5	mmol/L	3.0-8.0
Creatinine	0.145	mmol/L	0.040-0.110
Chloride	104	mmol/L	95-110
Albumin	25	g/L	35-50
Gamma GT	386	U/L	5-45
ALT	107	U/L	5-40
AST	24	U/L	5-40
Bilirubin	53	umol/L	2-20
Calcium	2.95	mmol/L	2.20-2.60
Haemoglobin	132	g/L	110-160
White cell count	91	X 10 <sup>9</sup> /L	4.0-11.0
Platelets	7.8	X 10 <sup>9</sup> /L	150-450
Mean corpuscular volume	264	fL	80-100
Midstream urine test	no growth		
Chest X-ray	no abnormalities detected		

**Answer 24**

Hypercalcaemia

Mild renal

Impairment

Liver metastases

**Question 25**

**Why do you correct the serum calcium?**

Write your answer in the box provided and then compare with the author's answer.

**Answer 25**

The total plasma calcium level is made up of:

ionized calcium and

albumen-bound calcium (approximately 40% total plasma calcium).

It is the iodised calcium that is important.

**Further information**

It is not uncommon for patients with cancer to have a low albumen level. If the serum calcium level is not corrected for this, then some patients will miss being diagnosed with hypercalcaemia.

**Question 26**

**How do you calculate the corrected serum calcium if the pathology laboratory you used does not report it?**

Write your answer in the box provided and then compare with the author's answer.

### Answer 26

The corrected serum calcium level is calculated by adding the uncorrected calcium to a correction factor (40-serum albumin X 0.02):

Uncorrected calcium = 2.95

Serum albumin = 25

Thus the correction factor for this patient :

$$= (40 - 25) \times 0.02$$

$$= 15 \times 0.02 + 0.30$$

Corrected calcium = 2.96  
(uncorrected calcium level) + 0.30  
(correction factor) = 3.25

### Question 27

List as many symptoms of hypercalcaemia you are aware of.

Write your answer in the box provided and then compare with the author's answer.

### Answer 27

- Confusion
- Apathy, irritability
- General malaise, tiredness, weakness
- Anorexia
- Nausea and vomiting
- Polyuria, polydipsia, nocturia
- Dehydration
- Abdominal pain
- Constipation
- Pruritis
- Increased bone pain.

### Question 28

List as many signs of hypercalcaemia you can think of (considering Mrs Green's physical examination findings).

Type your answer in the box provided and then compare with the author's answer.

### Answer 28

- Confusion/cognitive impairment
- Dehydration

### Question 29

Approximately what percentage of cancer patients develop hypercalcaemia?

Select one of the following

15 [ ]

10 [ ]

5 [ ]

2 [ ]

### Answer 29

10.

### Question 30

The incidence of hypercalcaemia is approximately 40% higher in patients with which cancers ?

List up to three.

Write your answer in the box provided and then compare with the author's answer.

### Answer 30

- Breast cancer
- Multiple myeloma
- Squamous cell carcinoma of the lung.

It is also important to be aware that hypercalcaemia can occur rarely

in patients with almost any type of cancer, even when there is not bone disease. Therefore it needs to be considered in any cancer patient who displays some or all of the symptoms of hypercalcaemia.

### Further information

Hypercalcaemia is a condition which warrants treatment if a patient's prognosis is likely to be more than two weeks, as the symptoms may improve significantly. Following treatment, patients may then choose to be discharged home.

### Question 31

Summarise the management of severe hypercalcaemia.

Write your answer in the box provided and then compare with the author's answer.

### Answer 31

- IV fluids (normal saline).
- Administer a bisphosphonate intravenously (eg. pamidronate).

General measures which may be useful in treating mild hypercalcaemia include:

- Increasing fluid intake to 3 litres/day.
- Ceasing thiazide diuretics.
- Ceasing calcium supplements.
- Treating the underlying disease if possible ie. with anti-tumour therapy.

**Reference:** Woodruff, R. Palliative medicine. Symptomatic and supportive care for patients with advanced cancer and AIDS. Third edition. Oxford University Press. 1999.

**Further history**

Mrs Green responds to treatment and is discharged home two weeks later. You continue to visit at home on a weekly basis.

Her husband is now caring for her full time and she continues to have daily wound dressings changed by the district nurse.

Several weeks after being discharged from hospital, Mrs Green telephones and requests an unscheduled home visit. She expresses despair over having insufficient time to finish writing her book.

She also tells you she gave her cats to a friend the day before as she doesn't think she has much time left. This is the first time she has been willing to discuss her own mortality.

**Question 32****What steps would you take now?**

Select one or more of the following

- ☐ **A.** Encourage Mrs Green to express her feelings about death and dying
- ☐ **B.** Suggest Mrs Green reconsider being referred to a home based palliative care team
- ☐ **C.** Suggest home help again, even though it has previously been refused
- ☐ **D.** Immediately prescribe an anti-depressant.

**Answer 32****A. The authors disagree.**

One would need to enquire about symptoms of depression before commencing an anti-depressant. Mrs Green's decision to put her cats down does not necessarily mean she is depressed. It may just indicate she is coming to terms with her situation after denying her death for so long.

**B. The authors agree.**

Mrs Green has resisted this referral until now as she didn't feel ready. The fact that she has found a new home for her cats because she believes she does not have much

time left indicates her death denying behaviour has been replaced by a willingness to accept she is dying. She is therefore at a stage where she is more likely to accept such a referral.

In an ideal situation, patients would accept such a referral at the time that metastases are diagnosed. This allows more time to work through relevant psychosocial/spiritual issues.

**C. The authors agree.**

The Green's situation has changed since you made the initial suggestion of home help and meals on wheels. Given that Mr Green has left his job in order to care for his wife, an offer of assistance in the form of home help is now gratefully accepted.

**D. The authors disagree.**

One would need to enquire about symptoms of depression before commencing an anti-depressant. Mrs Green's decision to put her cats down does not necessarily mean she is depressed. It may just indicate she is coming to terms with her situation after denying her death for so long.

**Further information**

Mrs Green finally agrees to be referred to a home based palliative care team. She completes her book with the assistance of a volunteer typist, plans her funeral and makes peace with her husband and son.

Several weeks later she develops a significant left hemiparesis and left hemianopia secondary to cerebral metastases. She is admitted to hospital where her symptoms are treated with radiotherapy and dexamethasone. She is discharged to a local nursing home and dies several months later.

Her death occurs ten years after her original diagnosis of breast cancer.

You elect to attend her funeral and provide grief counselling to her husband. Her son declines counselling.

A poem written by Mrs Green is read at the six monthly memorial service organised by the inpatient palliative care unit that cared for her. Mr Green subsequently gives permission for the poem to be put to music and it is recorded on to a compact disc.

Mrs Green's case illustrates some of the complications of breast cancer and the important role a general practitioner can play in managing palliative care patients. It also highlights the importance of attending to the individual needs of each palliative care patient.



