



Barriers, Challenges and Way Forward for Implementation of Person Centered Care Model of Patient and Physician Consultation: A Survey of Patients' Perspective from Eastern Mediterranean Countries..... page 4

From the Editor

Chief Editor:

A. Abyad
MD, MPH, AGSF, AFCHSE
Email: aabyad@cyberia.net.lb

Ethics Editor and Publisher

Lesley Pocock
medi+WORLD International
AUSTRALIA

Email:

lesleypocock@mediworld.com.au

Editorial enquiries:

aabyad@cyberia.net.lb

In this issue two papers dealt with the primary care implementation and the barriers involved. A cross-sectional multi-country study was conducted in six countries of EMR during May 2014 to October 2014. Expert Family Physicians from each country were identified and asked to participate in the study. The Family Physicians then recruited Patients from their own clinics (>18 years). Data analysis was performed on SPSS 19 and results are reported in the form of proportions, odds ratios and 95% confidence intervals. The aim of the study was to identify patients' perception regarding barriers and possible remedies for implementation of PCC in Eastern Mediterranean Region (EMR). A total of 234 patients were recruited, 60.6% were aged between 20 to 30 years and 36.3% of them were males. 56% of the patients preferred Person-Centered Care model for patient-physician consultation. The major barriers identified by patients in its implementing were; time constraints (73.9%, OR: 1.5; 95% CI: 0.86-2.78), doctors desire to control patient (OR: 2.6; 95% CI: 1.55-4.49), cultural and religious reasons (52.1%), increased cost (50.9%). Patients responded that increased cost related to Person-Centered Care practice would be acceptable (58.1%), if increase proved to be in the interest of better health and care outcomes (40.6%). The authors concluded that Person-Centered Care (PCC) is associated with significant barriers in its implementation in Eastern Mediterranean Region. These barriers can be overcome in the interest of better health and care related outcomes.

A paper from India analyzed the Medical and Non-medical aspects of Medical Consultation in the city of Visakhapatnam. The authors stressed that Indian healthcare industry is having a potential to reach \$ 280 billion by 2020 (KPMG Report) reflecting a compounded growth of 17-18%. Indian health care is witnessing a huge change in the form of disease profile. Patient

Patient enters medical practitioners' chamber with a high hope at the appointed time, but this consultation session is a meaningful or superficial interaction. It is indeed a situation of dilemma. The authors stressed that basically, consultation session in the medical practitioners' chamber varies from one patient to another. This case study is an observational study conducted at Visakhapatnam (port city in Andhra Pradesh). Visakhapatnam has been a centre of pharmaceutical companies from the last one decade. Three specialties (Cardiologist, diabetologist and Oncologist) were selected. Different situations were recorded and analyzed in these consulting sessions through observational schedule. Result indicated there are many reasons for the uniqueness. It can be used as training materials to the medical representatives as they get to know what exactly is happening in the chamber and helps in preparing himself for their meeting with the doctor's.

A paper from Nigeria assessed the Public and Economic Rehabilitation Component of Leprosy Control Programmes in Anambra and Ebonyi States of Southeast Nigeria. The study adopted a cross-sectional survey design. Quantitative data was generated through structured questionnaire schedule administered on 1116 study participants. The participants were selected through a combination of cluster and simple random sampling methods. Qualitative data were generated through two instruments. These were Focus Group Discussion (FGD) administered on persons affected by leprosy and In-Depth Interview (IDI) of leprosy control staff and officials from both World Health Organization and the donor agency supporting leprosy control in the two states. The Statistical Package for the Social Sciences (SPSS) software was employed in analysis of data. Frequency tables, percentages, bar charts, chi-square and multiple regressions were used for presentation, analysis and in testing the stated hypotheses. It was found that only 25.5% of the respondents acknowledged availability of SER component which is institutional rather than community based. Furthermore, most respondents assessed SER activities in leprosy control in the two states as largely unsuccessful. One hypothesis test showed that more respondents with low income perceived a link between adequate funding and effective leprosy control programme than those with higher levels of income ($X^2=190.427$, $df=70$, $p=0.000$). It was recommended that aggressive public enlightenment through public, private and local media; incentive

package for health workers and extensive socio-economic empowerment for effective rehabilitation of patients be adopted to enhance leprosy control in Anambra and Ebonyi states.

A retrospective study which was conducted in Jordan to evaluate the association between passive smoking and adverse reproductive effects or pregnancy outcomes among Jordanian pregnant women. A total samples of 4125 newborns were included in the study. The demographic characteristics of these newborns included: gestational age, gender, birth weight, congenital anomaly, mode of delivery and admission to NICU. Maternal characteristics of Jordanian women according to passive smoking included: age, parity, weight, and income. Pregnancy outcome for Jordanian women according to passive smoking status indicated that passive smoking are related with stillbirth with an incidence of 1.0%, low birth weight in 11.9%, pre-term delivery in 12.5%, congenital anomaly in 1.6%, caesarean delivery in 23.7% and need for admission in NICU in 35.4%. The result indicated that exposure to passive smoking during pregnancy had adverse effects on low birth weight, admission to NICU, and need antibiotic significantly p -value $<.0005$. The authors concluded that exposure to passive smoking during pregnancy had adverse effects on pregnancy outcome. Adverse reproductive effects are serious and costly health problems that have huge impact on morbidity and mortality rate in all societies.

While all efforts have been made to ensure the accuracy of the information in this journal, opinions expressed are those of the authors and do not necessarily reflect the views of The Publishers, Editor or the Editorial Board. The publishers, Editor and Editorial Board cannot be held responsible for errors or any consequences arising from the use of information contained in this journal; or the views and opinions expressed.

2 Editorial

Original Contribution / Clinical Investigation

<-- Middle East / South Asia Regional -->

- 4 **Barriers, Challenges and Way Forward for Implementation of Person Centered Care Model of Patient and Physician Consultation: A Survey of Patients' Perspective from Eastern Mediterranean Countries**

Waris Qidwai, Kashmira Nanji, Tawfik A M Khoja, Salman Rawaf, Nabil Yasin Al Kurashi, Faisal Alnasir, Mohammed Ali Al Shafae, Mariam Al Shetti, Muntazar Bashir, Nagwa Eid Sobhy Saad, Sanaa Alkaisi, Wafa Halasa, Huda Al-Duwaisan, Amal Al-Ali

<-- India / United Arab Emirates -->

- 12 **Analyzing the Medical and Non-medical aspects of Medical Consultation in the city of Visakhapatnam**

Supriti Agarwal , Sonia Singh

<-- Nigeria -->

- 20 **Public Assessment of Social and Economic Rehabilitation Component of Leprosy Control Programmes in Anambra and Ebonyi States of Southeast Nigeria**

Nwankwo, Ignatius Uche

<-- Jordan -->

- 34 **Passive Smoking and Pregnancy Outcome**

Tarek Athamneh, Sultan Qudah, Mahmoud Mashaqbeh, Sumaya Ali Njadat, Mohammed Khderat

Continuing Professional Development

<-- Iran -->

- 39 **How to critically appraise a scientific paper: Introducing a careful planning scheme**

Mohsen Rezaeian

<-- Australia -->

- 41 **Case 1 Quiz (Low Back Pain)**

medi+WORLD International

<-- Australia -->

- 43 **Case 2 Quiz(Low Back Pain)**

medi+WORLD International

Barriers, Challenges and Way Forward for Implementation of Person Centered Care Model of Patient and Physician Consultation: A Survey of Patients' Perspective from Eastern Mediterranean Countries

Waris Qidwai (1)
Kashmira Nanji (1)
Tawfik A M Khoja (2)
Salman Rawaf (3)
Nabil Yasin Al Kurashi (4)
Faisal Alnasir (5)
Mohammed Ali Al Shafae (6)
Mariam Al Shetti (7)
Muntazar Bashir (8)
Nagwa Eid Sobhy Saad (9)
Sanaa Alkaisi (10)
Wafa Halasa (11)
Huda Al-Duwaisan (12)
Amal Al-Ali (13)

- (1) Department of Family Medicine, Aga Khan University, Karachi, Pakistan
 (2) Director General, Executive Board, Health Ministers' Council for Cooperation Council States
 (3) Professor of Public Health, Director, WHO Collaborating Centre, Department of Primary Care and Public Health, School of Public Health, Faculty of Medicine Imperial College London, UK
 (4) University of Dammam, Saudi Arabia
 (5) Department of Family & Community Medicine, Arabian Gulf University, Bahrain
 (6) Vice Dean for Clinical Affairs, Oman Medical College, Sultanate of Oman
 (7) Family Physician, Bahrain
 (8) Department of Family Medicine, King Faisal Specialist Hospital and Research Centre, Jeddah, Saudi Arabia
 (9) Department of Family Medicine, Cairo University, Egypt
 (10) Senior Specialist Family Physician, Baghdad, Iraq
 (11) Family Physician, Amman, Jordan
 (12) Head of the Primary Health Care Faculty at the Kuwait Institution for Medical Specialization.
 (13) Assistant Program Director in Family Medicine Residency Program-Qatar.

Correspondence:

Dr. Waris Qidwai
 Professor and Chairman,
 Department of Family Medicine, Aga Khan University
 Stadium Road, P.O. Box: 3500, Karachi 74800, Pakistan
 Fax: (9221) 3493-4294, 3493-2095
Email: waris.qidwai@aku.edu; warisqidwaikarachi@yahoo.com

Abstract

Background: Person-Centered Care (PCC) is now considered a mandatory approach in Patient-Physician consultation. The aim of the study was to identify patients' perception regarding barriers and possible remedies for implementation of PCC in Eastern Mediterranean Region (EMR).

Methods: A cross-sectional multi-country study was conducted in six countries of EMR during May 2014 to October 2014. Expert Family Physicians from each country were identified and asked to participate in the study. The Family Physicians then recruited Patients from their own clinics (>18 years). Data analysis was performed on SPSS 19 and results are reported in the form of proportions, odds ratios and 95% confidence intervals.

Results: A total of 234 patients were recruited, 60.6% were aged between 20 to 30 years and 36.3% of them were males. 56% of the patients preferred Person-Centered Care model for patient-physician consultation. The major barriers identified by patients in its implementing were; time constraints (73.9%, OR: 1.5; 95% CI: 0.86-2.78), doctors desire to control patient (OR: 2.6; 95% CI: 1.55-4.49), cultural and religious reasons (52.1%), increased cost (50.9%). Patients responded that increased cost related to Person-Centered Care practice would be acceptable (58.1%), if increase proved to be in the interest of better health and care outcomes (40.6%).

Conclusion: Person-Centered Care (PCC) is associated with significant barriers in its implementation in Eastern Mediterranean Region. These barriers can be overcome in the interest of better health and care related outcomes.

Key words: Person-Centered Care, Physician-Patient Consultation, Primary Healthcare, Eastern Mediterranean Region.

Introduction

Person-Centered Care (PCC) and its application in patient/physician consultation is considered a mandatory approach in some health systems and is gaining popularity. It is the focus on Patients and their needs along with placing them at center point of Patient-Physician Consultation, which has made its place indispensable in health care delivery with better health outcomes. It offers a much needed platform for agreement on intervention and treatment plans between Patients and their physicians, and it improves Patient satisfaction and health care related outcomes.(1, 2)

Despite proven benefits of Person Centered Care (PCC), significant challenges still persist in its implementation across the globe. Its integration into clinical practice is often found to be patchy and inconsistent even in developed countries.(1, 3)

The situation in Eastern Mediterranean Region (EMR) is no different. A recently conducted multi-country, cross-sectional study across six countries of EMR found that 36% of the patients and 62.6% of physicians preferred a person-centered model of medical care. (4) Better acceptability of this model among physicians, in comparison to patients, is most likely due to incorporation of PCC model of patient/physician consultation in training programs for physicians.

There is scientific evidence to suggest that significant barriers exist in the implementation of PPC model in clinical practice even in developed countries and there are ways in which these barriers and challenges can be overcome. (5) This information provides us with the guide to enforce this model in EMR.

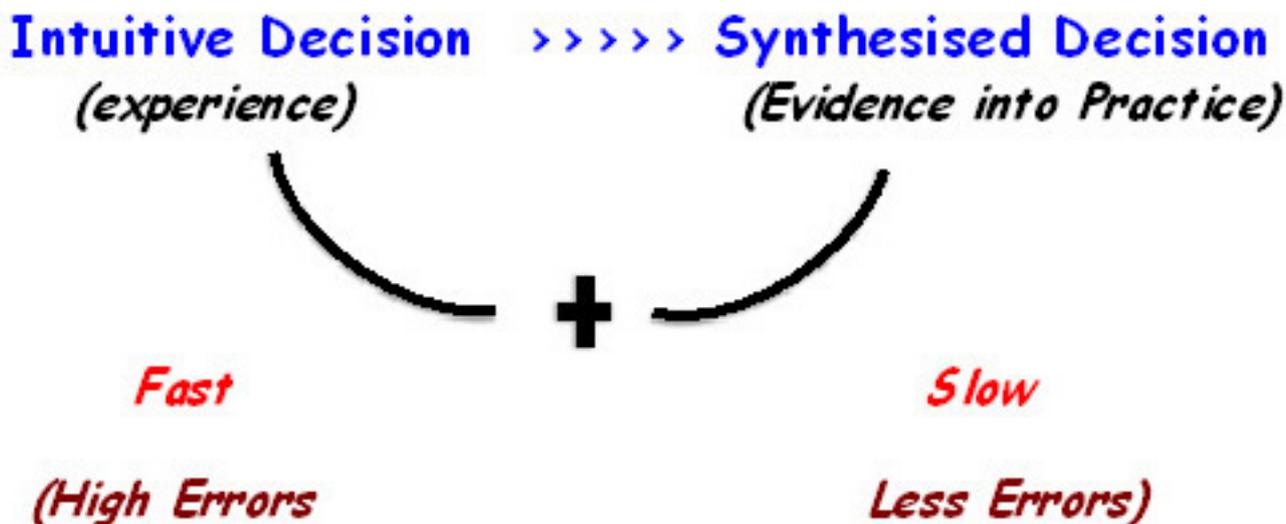
Several evidence based barriers and challenges to PCC implementation in clinical practice have been identified.(6) Time constraint is an identified barrier since PCC model takes more time to practice. In order to expect a patient to make informed decisions about a treatment, it is necessary that the condition is explained in simple and understandable language. Weakening of professional power with staff experiencing reduction in professional status, compromise in decision making power and in autonomy to practice, are considered other significant challenges for enforcement of PCC model of patient/physician consultation in clinical practice.(7)

The decision-making process by clinicians using synthesized approaches must involve the patient. It also reduces errors. (Figure 1 - see next page).

Lack of clarity exists about what constitutes PCC, making it more difficult to practice and to explain to patients.(7, 8) Its implementation is even more challenging among patients with communication difficulties (language barrier or learning difficulties). Institutional policies and non-conducive physical environments of care make practice of

Physician's Decision Making

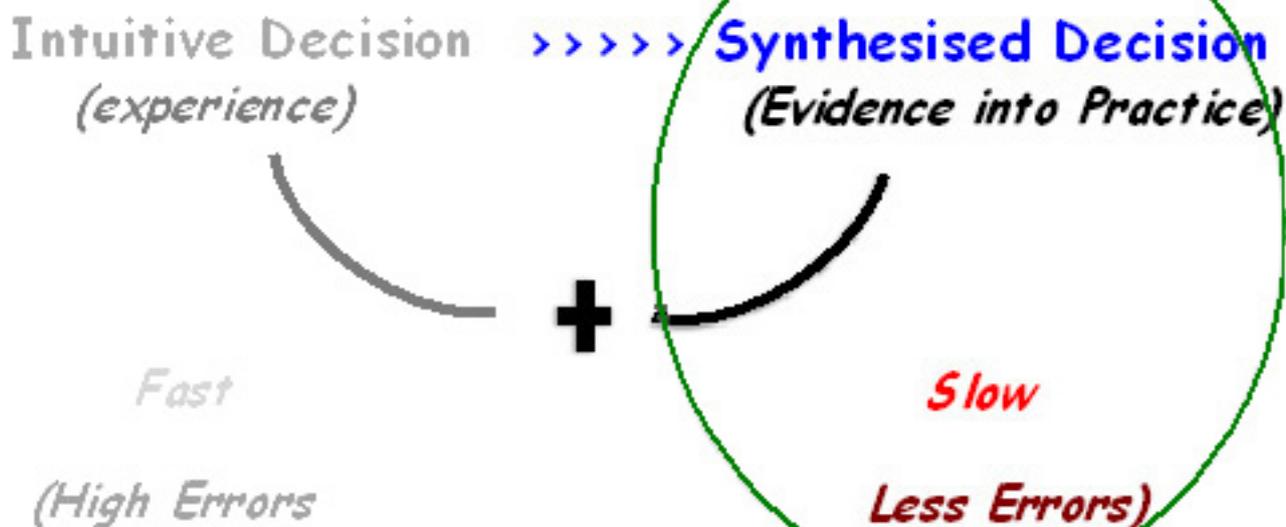
Advice, Dx, TR, Care



© WHO C Centre, Imperial College London

Physician's Decision Making

Advice, Dx, TR, Care



© WHO C Centre, Imperial College London

of Person Centered Care a challenging task to practice.(9)

A need was established to look at barriers, challenges and way forward for implementation of PCC model of patient and physician consultation within EMR Countries.

Introduction

Study Setting:

This cross-sectional study was conducted across six countries (Iraq, Saudi Arabia, Jordan, Egypt, Bahrain and Pakistan) of the EMR, from May 2014 to September 2014. These countries were selected to obtain patient's perception on PCC, from diverse cultures and socio-economic backgrounds.

Selection of Patients:

Family Physicians from different countries were invited to participate in the study. They were informed about the study protocol and requested to recruit patients coming to their clinics, older than 18 years and with one or more presenting problems. Patients were excluded if they were too ill to answer questions, were agitated or in severe pain.

Informed Consent:

Written informed consent was obtained from all participants after explaining about the study protocol. The study was conducted in accordance with the Helsinki Declaration.

Study tools:

A questionnaire was formulated after compiling important domains of PCC through extensive Medline search and by taking suggestions from experts in the field. The questionnaire focused on the barriers (increased cost, time constraints, religious & cultural barriers) of implementing PCC, as perceived by the patients. The questionnaire was also translated in Arabic, being a common language in the region. The questionnaire was then pre-tested and ambiguities were removed. The questionnaire was composed of 2 sections: The first section was composed of demographic details of the participants while the second section had questions on barriers and their possible remedies.

Data analysis

Sample Size:

Data analysis was conducted using Statistical Package for Social Sciences (SPSS) version 19. A post hoc analysis generated a power of 80% when 234 patients were selected at 5% level of significance.

Analysis:

Descriptive and inferential statistics were performed. Descriptive analysis was conducted by obtaining frequencies of all the variables. Later, Logistic regression analysis was performed to identify the barriers associated with implementation of PCC in EMR. Univariate

analysis was done to obtain the independent effects of barriers on preference of PCC by patients. Since none of the variables were found to be significant at the Univariate level, therefore, multivariate regression was not performed. The results were reported in the form of proportions, unadjusted odds ratio along with their 95% confidence interval. Throughout the analysis a P value of < 0.05 was considered statistically significant.

Results

A total of 280 patients were approached. 234 patients consented to participate in the study, yielding a response rate of 83.5% (234/280). About 60.6% of the patients were between 20 to 30 years and the majority of the patients were females (63.7%). Over half of the population had more than 10 years of schooling and 41.1% were unemployed. Approximately 18% of the patients were recruited from Egypt (Table 1 - next page).

Barriers for implementation of Person Centered Care in EMR are presented in Table 2. Slightly under three quarters of the patients believed that time constraints are a major barrier (73.9%, OR: 1.5; 95% CI: 0.86-2.78). This is followed by doctors feeling of being superior (67.1%, OR: 1.0; 95% CI: 0.58-1.76), doctors desire to control patient (OR:2.6; 95% CI: 1.55-4.49), patients desire to allow doctors to decide for them (56.8%), cultural reasons (52.1%), increased cost (50.9%) and religious reasons (33.3%).

Table 3 describes the possible remedies for overcoming barriers to implementation of PCC in the region. A similar proportion of patients responded that time constraints associated with PCC can be overcome by improving physician efficiency during patient physician consultation (66.2%), by improving patient efficiency by educating them about the PCC model (66.7%) and reducing number of patients seen by physician in a clinic time slot (65.4%).

Patients responded that increased cost related to practice of PCC could be reduced (58.1%) by accepting increase in cost in interest of better patient outcomes (40.6%). Half of the patients recommended that to overcome cultural beliefs and practices that hinder the practice of PCC; support can be taken from community leaders after explaining to them the benefits of PCC.

Three quarters of the patients responded that doctors needs to be educated and trained to practice PCC during patient-physician consultation.

Figure 2 depicts that 56% of the patients preferred PCC model for patient-physician consultation in the region.

Variable	Number (n=234)	Percentage
Age		
20-30 years	142	60.6
31-40 years	73	31.2
41-50 years	19	8.2
Gender		
Male	85	36.3
Female	149	63.7
Marital Status		
Never married	63	26.9
Married	154	65.8
Divorced/separated/widowed	17	7.3
Educational Status		
1 to 10 years of schooling	114	48.7
More than 10 years of schooling	120	51.3
Occupational Status		
Employed	138	58.9
Unemployed	96	41.1
Country		
Bahrain	40	17.1
Egypt	43	18.5
Jordan	38	16.2
Iraq	38	16.2
Saudi Arabia	44	18.8
Pakistan	31	13.2

Table 1: Baseline characteristics of Study Participants

Barriers	Responses			Unadjusted odds ratio (95% C.I)
	Yes	No	Don't Know	
Time Constraints	173 (73.9)	47 (20.1)	14 (6)	1.5 (0.86-2.78)
Increased Cost	119 (50.9)	83 (35.5)	32 (13.7)	1.0 (0.63-1.78)
Doctors feeling of Superiority	157 (67.1)	62 (26.5)	15 (6.4)	1.0 (0.58-1.76)
Doctors Desire to control patient	121 (51.7)	96 (41.0)	17 (7.3)	2.6 (1.55-4.49)
Patients desire to allow doctor to decide for them	133 (56.8)	88 (37.6)	13 (5.6)	1.2 (0.74-2.09)
Religious Reasons	78 (33.3)	115 (49.1)	41 (17.5)	1.0 (0.59-1.77)
Cultural Reasons	122 (52.1)	81 (34.6)	31 (13.2)	1.0 (0.60-1.60)

Table 2: Barriers in Implementing Person Centered Care in Eastern Mediterranean Region

Barrier	Possible Remedies	Responses
Time Constraints	Time Constraints associated with PCC model could be overcome	173(73.9)
	Improving physician efficiency during patient physician consultation	155 (66.2)
	Improving patient efficiency by educating them about PCC mode	156 (66.7)
	Reducing number of patients seen by physician in a clinic time slot	153 (65.4)
Increased in Cost	Increased cost associated with PCC model could be reduced	136 (58.1)
	Improving Physician efficiency during Patient Physician Consultation	135 (57.7)
	Improving Patient efficiency by educating them about PCC mode	135 (57.7)
	Accept increase in cost in interest of better Patient-Physician Consultation outcome	95 (40.6)
Cultural Beliefs	We can overcome cultural beliefs and practices to support practice of PCC	119 (50.9)
	Patient education about person centered care PCC	124 (53.0)
	Physician education about PCC	127 (54.3)
	Taking support from Community leaders after convincing them about the benefits of PCC	115 (49.1)
Religious Beliefs	We can overcome religious beliefs and practices to support practice of PCC	111 (47.4)
	Patient education about person centered care PCC	113 (48.3)
	Physician education about PCC	111 (47.4)
	Taking support from Community Leaders after convincing them about the benefits of PCC	95 (40.6)
Patient Education	Patients could be educated to overcome their belief of "Doctors could make better decision for their treatment"	161 (68.8)
	Patients feels that doctor is incompetent when a doctor asks patients to take informed decisions about their treatment	89 (38.0)
	Patients can be educated not to consider Doctors practicing Person Centered Care as less competent	72 (38.2)
Doctor Education	Doctors can be educated and trained to practice Person Centered Care	177 (75.6)

Table 3: Possible solutions for overcoming barriers to implement Person Centered Care (PCC) in Eastern Mediterranean Region (EMR)

Preference of Person Centered Care Model by Patients in EMR

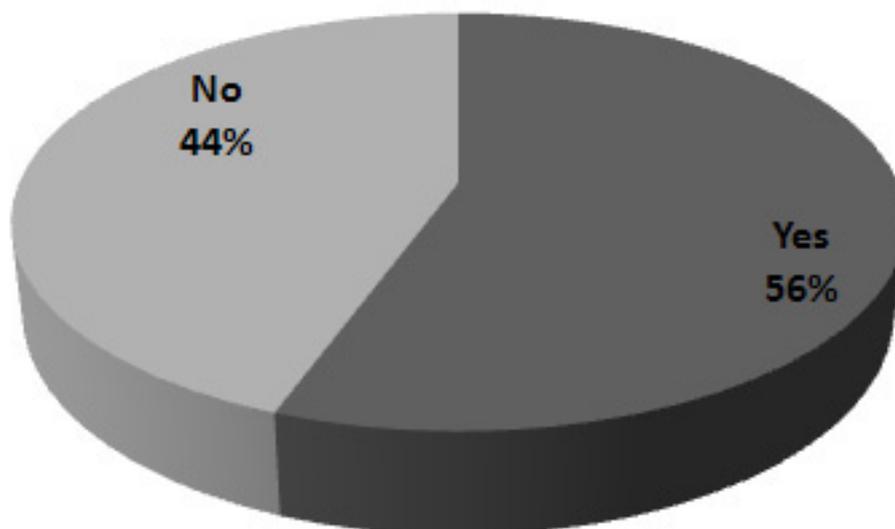


Figure 2

Conclusion

This is perhaps the first study from EMR that has looked at PCC from the Patient's perspective in the context of challenges, barriers and way forward. The sample is of a reasonable size even though it covers younger people and particularly more women. Most of the study participants were fairly educated yet stated to be unemployed, being housewives and looking after their families. Despite these shortcomings, the findings are relevant and have practical implications.

It is heartening to note that more than half of the respondents favor implementation of person centered model for patient physicians' consultation in the region. A study conducted in the region on patients and physicians perceptions regarding PCC also found support for PCC model among more than 50% of respondents.(4)

It is not a surprise to note that "time constraint" has come out as a barrier for implementation of PCC in the region, and this is possibly because of several reasons. In order to implement PCC model for patient-physician consultation, it will be necessary to make the patient the focus of consultation through empowering them. The patient will have to be informed about his or her condition and available evidence based choices in enough detail and simple understandable language, to enable him or her to reach meaningful decisions. All these measures increase patient-physician consultation time and costs that can be curtailed.

"Increased cost" is another related barrier for implementation of this model of Patient-physician consultation, and has come out strongly in this study. There is evidence to suggest that with proper planning and execution, additional costs associated with Person-Centered model of care can be reduced. (10, 11) There is evidence that with proper implementation of PCC model, patient-physician costs can be cut in the long run.(12, 13) It is not surprising that patients consider it worthwhile to invest time and cost to empower Patients and implement person centered model for patient-physician Consultation. Improving physician's efficiency and educating both patient and physicians about the process for this model of consultation will reduce time and cost required for this type of clinical encounter.

It is interesting to note that Patients consider a physicians' desire to control patient-physician consultation and their feeling of being superior, (14, 15) as a barrier to implement person centered model for patient-physician consultation. Another related barrier identified in this study is the desire of patients for physicians to decide for them.(15) Such barriers can be removed by educating both patients and physicians that they are equal partners in the consultation and that the benefits of having the patient as the focus of the encounter are not only beneficial for health related outcomes, it does not compromise the respect that they have and enjoy during the Consultation process as equal human beings.

Cultural and religious reasons(16, 17) have been quoted as barriers to implementation of person centered model for patient-physician consultation. In some societies, physicians have been and still are considered 'next to God'.(15) Patients are unfortunately not considered

capable of making health care related decisions in our society. A physician has traditionally and historically enjoyed tremendous respect and a patient has been a passive recipient of medical care given by a physician. Against this background, introduction of patient-physician model of consultation that puts the entire focus on the patient has been and continues to be a challenge. Respondents have suggested that community leaders can be asked to support this model and education of both patients and physicians with regards to it can help overcome cultural as well as religious barriers for its implementation.

Conclusion

PCC is associated with significant barriers in its implementation in EMR. These barriers can be overcome in the interest of better health care related outcomes. It is the responsibility of all stakeholders and health care providers to ensure that barriers are removed and practice of person centered model of patient-physician consultation is enforced in EMR.

Acknowledgements

We are thankful to the study participants (patients and physicians), management and staff of all of the hospitals/clinics in EMR for their support and help throughout the data collection period.

References

- Ekman I, Swedberg K, Taft C, Lindseth A, Norberg A, Brink E, et al. Person-centered care - ready for prime time. *Eur J Cardiovasc Nurs*. 2011; 10(4):248-51.
- Longworth, D. L. Accountable Care Organizations, the Patient-Centered Medical Home, and Health Care Reform: What Does It All Mean? *Cleveland Clinic Journal of Medicine* 2011, 78(9), 571-582.
- Mezzich JE, Snaedal J, van Weel C, Botbol M, Salloum IM (2011): Introduction to Person-centered Medicine: From Concepts to Practice. *Journal of Evaluation in Clinical Practice* 17: 330-332.
- Qidwai W, Nanji K, Khoja T A M, Rawaf S, Al Kurashi N Y, Alnasir F, Shafae M A, Shetti M A, , Bashir M, Saad N E S, Alkaisi S and Halasa W. Are we ready for a person-centered care model for patient-physician consultation? A survey from family physicians and their patients of East Mediterranean Region. *European Journal for Person Centered Healthcare* 2013. Vol. 1 Issue 2 pages 394-404.
- Ruggiano N, Edvardsson D. Person-centeredness in home- and community-based long-term care: current challenges and new directions. *Soc Work Health Care*. 2013; 52(9):846-61.
- Kelly J. Barriers to achieving patient-centered care in Ireland. *Dimens Crit Care Nurs*. 2007;26(1):29-34
- Lutz, BJ, & Bowers, BJ, 'Patient-centred care: understanding its interpretation and implementation in health care', *Scholarly Inquiry for Nursing Practice*, 2000 vol. 14, no. 2, pp. 165-83.
- Mead, N, & Bower, P, 'Patient-centeredness: a conceptual framework and review of the empirical literature', *Social Science and Medicine* 2000, vol. 51, no. 7, pp. 1087-110.
- A Victorian Government Initiative. National Ageing Research Institute. What is person centered care? A literature review. [Internet] 2006. [Cited Jan 14, 2015] Page 1. Available from: http://www.mednwh.unimelb.edu.au/pchc/downloads/PCHC_literature_review.pdf
- Rosenberg CN, Peele P, Keyser D, McAnallen S, Holder D. Results from a patient-centered medical home pilot at UPMC Health Plan hold lessons for broader adoption of the model. *Health Aff (Millwood)*. 2012; 31(11):2423-31
- Fishman PA, Johnson EA, Coleman K, Larson EB, Hsu C, Ross TR et al. Impact on seniors of the patient-centered medical home: evidence from a pilot study. *Gerontologist*. 2012; 52(5):703-11
- The Medical Home. The Person Centered Health System and the Medical Home. [Internet] 2015. [Cited Feb 3, 2015] Available from: <http://medicalhome.org.au/the-person-centred-health-system-and-the-medical-home/>
- Hansson E, Ekman I, Swedberg K, Wolf A, Dudas K, Ehlers L, et al. Person-centered care for patients with chronic heart failure - a cost-utility analysis. *Eur J Cardiovasc Nurs*. 2015.
- Mansfield CJ, Mitchell J, King DE. The doctor as God's mechanic? Beliefs in the Southeastern United States. *Soc Sci Med*. 2002; 54(3):399-409.
- Qidwai W. Paternalistic Model of Medical Practice. *J Coll Physicians Surg Pak*. 2003 May. 13(05): 296
- Jaikrit Bhutani, Sukriti Bhutani, and Jai Kumar. Achieving patient centered care: Communication and cultural competence. *Indian J Endocrinol Metab*. 2013; 17(1): 187-188.
- Epner DE, Baile WF. Patient-centered care: the key to cultural competence. *Ann Oncol*. 2012 Apr; 23

Analyzing the Medical and Non-medical aspects of Medical Consultation in the city of Visakhapatnam

Supriti Agarwal (1)

Sonia Singh (2)

(1) Dr Supriti Agarwal, Assistant Professor,
Amity University, Noida, India

(2) Dr. Sonia Singh, Assistant Professor
Al Dar University College, Dubai,
United Arab Emirates

Correspondence:

Dr Supriti Agarwal
Assistant Professor,
Amity University, Noida, India
Zip- 201313

Email: sagrawal2@amity.edu

Abstract

The Indian healthcare industry has the potential to reach \$ 280 billion by 2020 (KPMG Report) reflecting a compounded growth of 17-18%. Indian health care is witnessing a huge change in the form of disease profile. Currently, 34% of death is happening due to infectious disease and 53% of death is due to lifestyle diseases. In spite of the technological advancement in medical sciences, diseases are engulfing human life. It creates a perplexed situation. The patient enters a medical practitioners' chamber with a high hope at the appointed time, but this consultation session is both a meaningful or superficial interaction. It is indeed a situation of dilemma

This case highlights the dilemma that exists in the medical practitioner's chamber related to patient interaction. Basically, consultation session in the medical practitioners' chamber varies from one patient to another. There are various reasons for this variation. Maybe the patient is a first timer or the patient is accompanied by an attendant or the presence of a pharmaceutical manager in medical practitioner's chamber is creating the difference. It can be also due to change in disease profile

(infectious or lifestyle related). The public sector is keenly participating in the treatment of communicable diseases and the private sector is trying for lifestyle related diseases.

This case study is an observational study conducted at Visakhapatnam (port city in Andhra Pradesh). Visakhapatnam has been a centre of pharmaceutical companies from the last one decade. Three specialties (Cardiologist, diabetologist and Oncologist) were selected. Different situations were recorded and analyzed in these consulting sessions through observational schedule. Results indicated there are many reasons for the uniqueness. It can be used as training materials to the medical representatives as they get to know what exactly is happening in the chamber and helps them in preparing for their meeting with the doctors.

Key words: Medical consultation session, Doctor-patient interaction, Pharmaceutical marketing strategies, medical practitioners.

A typical scene from a medical consultation ...

The patient

I had taken two hour break from my office for routine sugar check up. Although my reports were ok, still I am little bit worried. Two days back I lost my colleague, who was only 34 year old. He was also diabetic and succumbed to fatal heart attack. I started to enquire about the extent of diabetes from my fellow patients. Some were very hopeful and some were depressed. I was really very much in a dilemma. What is my future? This question had perturbed me so much, that I started viewing my watch. Now, this waiting time was troubling me a lot. Just then the receptionist called my name. Finally, I entered the doctor's clinic..... I showed him my reports. Doctor congratulated me for my good control on sugar level and enquired about exercise schedule. I assured him about the regularity of exercise schedule. He listened and started writing prescriptions. I thought I should ask about a few more doubts, but his speed of writing the prescription was a clear cut signal that my time is up. Or perhaps I'll ask next time.

The doctor

I'm a leading Endocrinologist consulting in a leading hospital... yet another busy day. It's 12.00 pm. Seventh patient comes in, clearly upset and angry, as he was waiting for more than one hour after his appointment time. I am aware they book multiple patients at the same time, but what can I do about that? Anyway, I felt sorry for him but really can't do much, as consultation time will be over by 1.00 pm and nine more patients are in the queue. I started enquiring about his sugar level and gave a few general instructions in a hurry. He didn't get himself diagnosed as he required a few tests; therefore I didn't change any medicine and asked him to visit me again with the test reports. The patient seemed to be in gloomy state which made me think that he wouldn't comply with my instructions. I tried to make him cheerful at the end , but it was in vain.

Epilogue: This was a typical situation happening during medical consultation. Nobody wants to fall ill, but, still one had to visit a doctor's clinic. Thankfully, nowadays a doctor's consultation chambers infuse a feel good factor in the patient's mind. Still! Illness had a negative impact on both the physical and mental status of the patient. Certainly, modern lifestyles have resulted in a variety of ailments. A recent report of WHO highlighted that lifestyle diseases accounted for 5.2 million (50.5%) of the 10.3 million deaths in India (2005) compared to 35 million (60.3%) of 58 million deaths worldwide. By 2050, people over 60 years will increase from 76.6 million (7.4% of total population in 2001) to 300 million (17% of the population). A great amount of money is being spent on medicine marketing by pharmaceutical companies in various ways, but they have not assessed the potential of the medical consultation. A study by world bank economist Jishnu (Hindustan times) found that in India, average consultation time per patient both at government and private hospitals was 5.3 minutes and the rate of correct diagnosis was just 21.8 %.

Generally, pharmaceutical marketing expenditure is incurred on analyzing and understanding the prescribing behaviour of medical practitioners only, but if they start analyzing the quality of doctor- patient interaction during medical consultation, it will definitely add more value in pharmaceutical interaction with medical fraternity.

The case: This case study is based on the medical consultation belonging to three types of chronic ailments, i.e. (Diabetes, Cardio-vascular disease and Cancer) conducted at Visakhapatnam, a port city in Andhra Pradesh. Visakhapatnam has a 5 million Telugu speaking population displaying a cosmopolitan nature. Visakhapatnam has many hospitals ranging from the King George Hospital to multi specialty hospitals like Care hospitals, Apollo hospital, etc. These hospitals are catering to the demand of diseases ranging from the smallest flu to the biggest death causing infections.

The study is qualitative in nature. Observation method was adopted for collecting data. Consultation observation tool was prepared. Questions were based on medical as well as nonmedical (psychosocial) perspectives of medical consultation. This study was carried out in the 7 hospitals at Vishakhapatnam city. The consultation observation tool was filled in by doctors. An observer was present in the medical consultation session for noting down the details of the medical consultation session.

There are various numbers of consultation models in existence, but most influential model is the Calgary-Cambridge approach. This model identifies five main stages (Figure 1) in the medical consultation session.

- **INITIATING THE SESSION**
- **GATHERING INFORMATION**
- **PHYSICAL EXAMINATION**
- **EXPLANATION AND PLANNING**
- **CLOSING THE SESSION**

Figure 1: Calgary-Cambridge Approach

This framework provides structure and emphasizes the importance of building a good doctor- patient relationship. It is patient-centred and emphasizes effective communication and gives the direction for recording information from the consultation session. But it gives little consideration for the social, psychological and behavioural dimensions of illness. In order to understand the process of medical consultation, the consultation session can be real or simulated. They can be observed or recorded in a number of ways, such as:

1. An observer 'sits in' on real consultation session.
2. An observer may watch through a one-way glass so that they are not physically present in the consultation.
3. Consultations can be recorded and analyzed by using appropriate rules and guidelines.

4. Consultations can be described and discussed after the consultation by doctors, doctor and patient or more widely with others.

5. Mock consultations can be planned with participants playing the role of doctor or patient.

This case study is developed through the first method (presence of observer in the real consultation session) and revolving around the stages mentioned in the Calgary-Cambridge model.

Case Scenarios

Lifestyle diseases such as diabetes and hypertension are commonly found associated with rural and tribal areas of Vishakhapatnam. The findings are the result of a six-month pilot study on non-communicable diseases (NCDs) being undertaken by the Public Health Foundation of India (PHFI) in collaboration with the Union health ministry's directorate of NCD and Nature NGO. The main causes of these diseases are changes in lifestyle and diet pattern, besides genetic predisposition and weak immunity system.

This case study analyzes the nuances of the consultation session. The table below depicts a summary of the patient details which have been used for analyzing the medical consultation session....

This case study is developed for three types of patients, i.e. those suffering from lifestyle diseases such as Diabetes, Cardio-vascular problems and Cancer. Observations derived through the medical consultation sessions for 7 different patients are illustrated as follows: Ramakrishna agony of Cancer.....

Ramakrishna, 38, works as a drawing teacher in a local private school for the past 10 years. One morning, he observed some unwanted growth on his throat which was very disturbing. On his meeting with the doctor, it was confirmed that it is an unwanted growth which has to be removed by chemotherapy. Chemotherapy cycles were planned and everything was going well. On his completion of the 4th cycle out of 6 cycles, Ramakrishna

came to visit the doctor to give a report of his health condition. Ramakrishna was escorted by his wife who stood supportive all through the treatment. The doctor started the conversation and asked about the well being of Ramakrishna for which the response was good.

Ramakrishna came up with several doubts regarding the necessity of PET scan. The doctor explained the relevance of the scan as it supports the normal CT (Computer tomography). Hence it helps in understanding the condition of the patient better. Ramakrishna also complained about the insomnia he is suffering from for which the doctor prescribed some sedatives that will help the patient to have a sound sleep. Ramakrishna was completely relieved of the tension and greeted the doctor while leaving the chamber.

This case indicates that consultation session (15 minutes) was not only filled with the biomedical (technical) investigations, but filled with the real sharing of the patient's concern and fear (psychosocial session). This doctor-patient communication process has been widely researched in the context of medical teaching and training in many studies conducted by Kurtz et al (1998) & Silverman et al (2005).

Now, another case is about a low profile village farmer, who is shocked at hearing about his diagnosis of cancer.

Ramana was shocked.....

Ramana, 36, is a farmer who lives in a village, 150 km away from the city, and leads a common life. Ramana suddenly started facing some problems in the stomach which made him feel sick. Ramana came to know that he was suffering from advanced rectum tumour which he earlier believed was some sort of stomach problem. Treatment included radiation therapy which had to be completed in 6 cycles. The 1st cycle was successful and he arrived to be admitted to hospital for the 2nd cycle to commence. Ramana was completely preoccupied with the tensions regarding his family, children and work.

Name	Age	Gender	Disease	Visit	Duration of Consultation
Ramakrishna	38	M	Throat Cancer	5th	15mins
Ramana	36	M	Rectum Cancer	2nd	10mins
Bujji	36	M	Diabetes	4th	8mins
M.S.N.Prasad	49	M	Diabetes	1st	8-10mins
V.Saikanth	44	M	Cardiovascular Problem	1st	13-15mins
V.V.Rao	49	M	Hypertension	1st	6-8mins
Ramani	50	F	Cardiovascular Problem	3rd	8-10mins

Table 1: Patient Details

The doctor grasped the situation of Ramana and greeted him in a comforting manner. He made the patient comfortable in the chamber by enquiring about his family condition, financial status and about the consequences of the first chemotherapy cycle. Ramana gave one word answers all the time. The doctor also checked the reports and previous prescriptions which helped him to get an idea of the treatment and the stage which he needed to continue. Ramana was examined physically for about a minute. "The second cycle will start from tomorrow and the whole process will be completed within 3 months. You should be prepared to get admitted to the hospital and you have to stay for the entire period of chemotherapy" remarked the doctor. "Yes" is the answer from Ramana. Meanwhile, Ramana also pointed towards his wife who had accompanied him with all the requirements for his 3 months. The doctor asked the nurse to take care.

Here the session lasted only for ten minutes and covered the biomedical aspect as the doctor tried his level best in reducing the shock level of Ramana. Then, patient became stronger in accepting the mode of treatment. This aspect was similarly seen in the study of Maguire P et al 1996, as they established key tasks of the consultation while conducting research into doctor-patient communications. It includes patients' problems and concerns, giving information, discussing treatment options and unconditional support of the medical fraternity. Studies (Balint M; 1964) reveal that doctor make patients feel better when they listen to the patients attentively. Another study by Jenkins et al (2001) found that 87% of hospitalized cancer patients interviewed desired all the information about their disease, good and bad, and 98% preferred to know whether or not their illness was cancer. Numerous studies have also examined the relationship between cancer pain and various forms of psychological distress, including mood disturbance, anxiety, depression, emotional distress, fear, and worry (Francis et al. 2004).

Now-a-days, diabetes is also becoming a major problem and is considered as the 'long-term sickness' in people over the age of 50 years (Waddell & Aylward 2005). Globally 366 million people are suffering from diabetes as per 2011 statistics. By 2030 it is expected to double. While China is leading in diabetic population with about 97 million, India is second only to China with about 77 million diabetic patients, said Dr. Saxena, Chief advisor, Kareus Therapeutics, SA, during a symposium at DRILS in Hyderabad Central University. Next observation is of a government worker, who has been suffering from diabetes for the last four years.

Bujji appearing for routine check-up for Diabetes
Bujji, 36, works in the government sector, and has been suffering from diabetes for the past four years. He only consulted a general physician for the treatment. The doctor examined the previous prescriptions and reports "There is nothing much to worry about regarding the diabetes in your case, as the sugar levels are under good control and you only have to take precautions in terms of diet and lifestyle" he continued. "Get your sugar level's checked and show

me the reports after 3 months", replied the doctor. A sympathetic gesture of the doctor brought a smile to Bujji's face.

This 8 minute consultation session highlighted the psychosocial aspects. Here observation is displaying strong emotional bond between doctor and patient. It was seen here that the doctor tries to teach Bujji the basics of self-management for diabetes. Definitely these self-management sessions had strengthened the doctor and patient relationship over time. This case justified the study of Mishler 1984 that came up with a disease centred model where the doctors talk in terms of medicine only. Their main aim and objective depends on the explanation of physical symptoms to the patient and thus the doctor listens to the 'voice of the patient', and encourages the patient's active involvement in the consultation. Thus, a positive reply from the patient drafts a positive impact on health care and status (Esterling B et al 1990).

Another case is of Prasad, who thought that his eye infection was due to his diabetes. But the medical consultation unfolded a different story.

A case of Doctor-patient exchanging information

M.S.N Prasad, male, aged 49 works as a conductor in a government corporation arrived to the clinic. Doctor greeted the patient with a smile and Prasad occupied the seat in front of the table. The session started with formal greetings from both of them as they knew each other, belonging to the same department. And the conversation begins.

Prasad: "Doctor, I have infection in my eyes and they are hurting a lot."

Doctor: "Let me observe your eyes first."

After a keen observation into the cornea, doctor came up with some questions, "Did you eat anything which is not in your regular diet?"

Prasad: "Doctor, I had mangoes which literally started irritation in my eyes. Can eating mangoes affect a person?"

Doctor: "See, it's not like that. It depends on various reasons. Did you have this problem before or did it show after you had this diet?"

Patient was a little confused at this answer. Immediately the doctor came up with some more questions. "Do you smoke?"

Prasad: "Yes" was the answer after some seconds of silence.

Doctor: "Anybody in your family suffered from blood sugar or any hereditary disease?"

Prasad: *"Yes doctor. My mother has a diabetic history and she has been treated for the past ten years. Is this blood sugar doctor?" asked the patient with some state of tension in his mind.*

Doctor: *"No, I can't come to a conclusion right now. I have to perform some basic tests. I am prescribing some medicines which will reduce irritation and also some tests to be performed" and continued "Please meet me next time with all your reports"*

Prasad: *"Yes doctor, I will be quitting smoking as soon as possible".*

Doctor: *"Remember, it's better to quit smoking, it will certainly help you a lot" the doctor ended the consultation session.*

In this consultation, it was observed that doctor was very much pleased to hear the positive reply from the Prasad and therefore session ended with the positive note. This medical consultation session covered purely biomedical aspects.

Psychological stress in the workplace is generally regarded by the public as an important cause of coronary heart disease. While epidemiological studies have amply demonstrated a strong, consistent relation between coronary disease and cigarette smoking, high blood cholesterol, hypertension, diabetes, and family history (Kannel et al.1976; Kannel et al 1986). In India, three out of every 1,000 people suffer a stroke. The number of deaths due to heart attack was projected as 1.2 million to two million in 2010. Studies (Ford et al 1997) found that doctor feel that satisfied patients follow the treatments more religiously.

Now analyzing the medical consultation session for patients suffering from cardiovascular problem, the first patient is V.Saikanth, who is trying to figure out the cause of chest pain in his consultation with the doctor.

Saikanth presented due to severe pain in chest...

V Saikanth, 44, is from a middle class family and he suffered some unbearable pain that rose from his chest and made him to fall to the ground. Hence Saikanth visited a specialist doctor as recommended by his friends.

Saikanth was escorted by his wife. The doctor examined Saikanth by making him to perform some breathing patterns. The doctor also examined the pulse, blood pressure and the patterns of heart beats. The doctor started explaining the case, "There is nothing to worry much. Your reports show that you are fit and fine. The main problem is there is a blockage in your blood vessel which resulted in unbearable pain. The solution for this problem is to insert stents which will clear the blockage. Stents are in the shape of small tubes which free the blood vessels from blockages and help in the free flow of blood.

The operation can be scheduled in the next week once all matters are settled".

Saikanth replied, "Yes doctor! I will be ready with the arrangements as soon as possible". "Don't worry!! Everything will be fine" assured the doctor which made the patient feel comfortable and walk out from the consultation chamber with a cool mind.

This session highlighted both perspectives (psychosocial & biomedical) of the consultation session and lasted up to 13-15 minutes. Hence the medical practitioner was trying to make the patient feel satisfied and comfortable in the entire session. If the outlook of the medical practitioner provides a credible self help approach to the patient, definitely the medical consultation session will necessary move from a 'disease model' to a 'bio psychosocial model' (Waddell & Aylward 2010). Further Maguire & Pitceathly (2002) also emphasized that the usage of more open ended questions should be adopted in dealing with psychosocial and complex emotional issues and then only will patients be more involved in the session.

The last case is of Mrs. Ramani. She is trying hard to manage high blood pressure and increased level of cholesterol.

Although Mrs Ramani is vigilant about her illness, still, there is a long way to go.....

Mrs. Ramani, 50, is a school teacher. She had increased level of cholesterol and elevated blood pressure for which medications have been prescribed. For the past few weeks, she has been suffering from aches and pains in the legs which is disturbing her daily routine. She enters the chamber with her son as an escort.

"How are you Mrs. Ramani? Is everything going fine?" questioned the doctor.

"Doctor, I am fine but, I had severe ache and pains in my legs for the last few weeks. I am a school teacher; therefore, I have to stand throughout the day. This is not new to me but pain has started suddenly and is disturbing my entire work schedule" replied the patient.

"Do you have anything new in your diet?" asked the doctor.

"Yes, I have started taking fresh grapefruit juice that makes me energetic and improves my energy levels also, so that I can get on with my work perfectly" replied the patient.

"Yes, this is the main reason for your aches and pains in the legs. Grapefruit juice is contraindicated to the medications which you are taking. The main side effect is myopathy or muscular weakness and it is the main reason for your pain" explained the doctor patiently.

"So, Should I stop grapefruit juice doctor? Is there anything more I have to modify in my diet?" asked the patient.

"Yes, of course! Stop having grapefruit juice; I am also prescribing some new medications which will relieve you from pain or muscular weakness. Next time, please consult me before trying anything new in the diet" replied the doctor.

Background Information

Medical consultation is indeed a very important phenomenon, as it initiates the rapport between doctor and patients. Medical consultation is not only about doctor-patient relationship but it also includes doctor and pharmaceutical representative relationship. Thus, these skills are of great benefit to doctors, patients and pharmaceutical representatives, as they are a direct or indirect link to consultation phenomenon.

Medical consultation

According to Pendleton (1984), consultation is 'the central act of medicine' which 'deserves to be understood.' It is focal to the transaction between doctors and patients and plays a crucial role in the relationship between doctors and patients (Smith R 2003). It influences the precision of diagnosis and treatment, and studies have indicated that over 80% of diagnoses in general medical clinics are based on the medical history. There are three main aspects

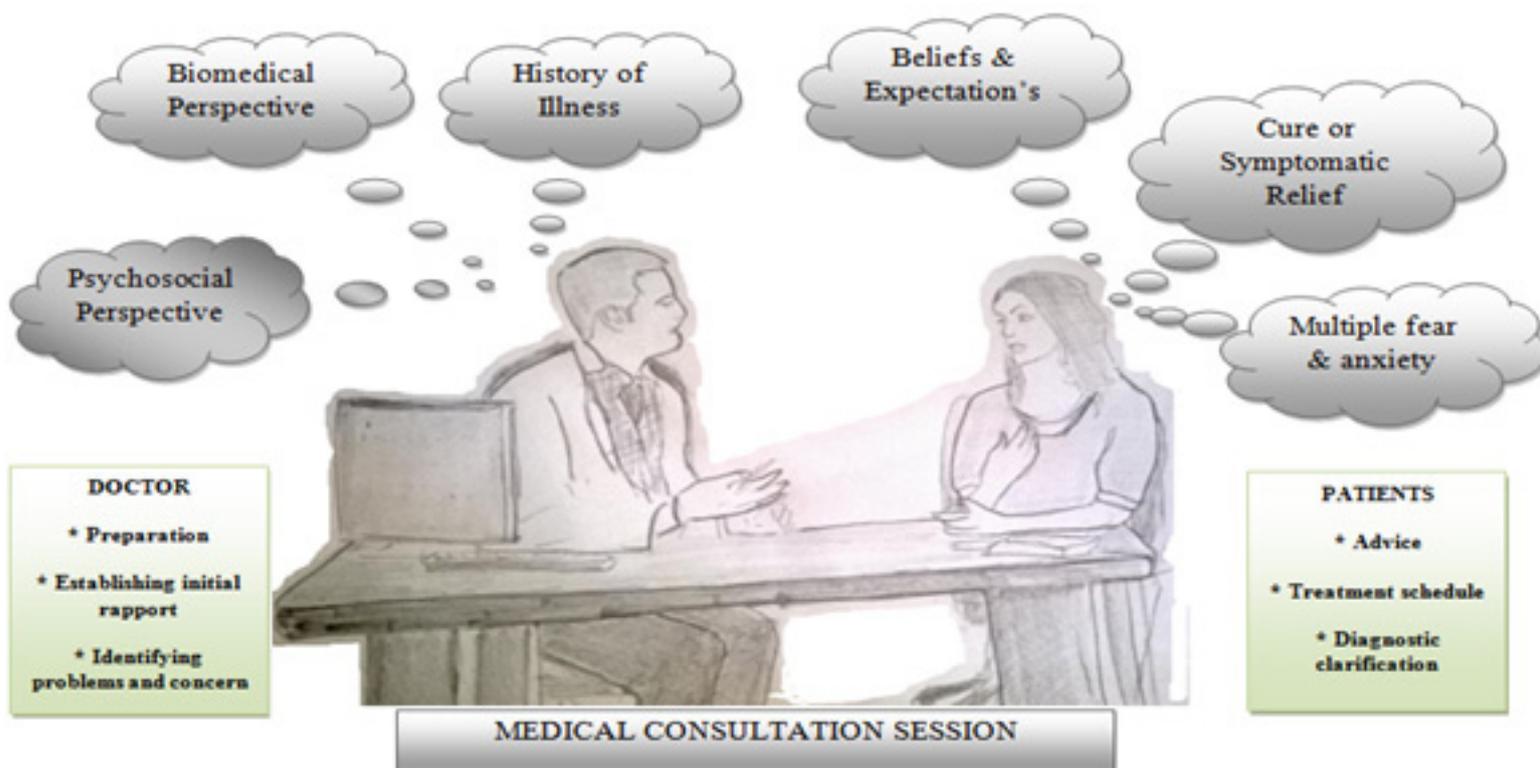
of medical consultation session. They are: Preparation, Establishing initial rapport, and Identifying the problems and concern.

Preparation: In preparing for a consultation, an optimal setting is required. It includes the setting of consultation room and waiting lounge. It should be neat and tidy. Time management is a very important aspect in medical consultation session, as it not only includes quality of the consultation session but also waiting time.

Establishing initial rapport: During the consultation session, it is essential to develop a comfortable bonding between doctor and patient. Generally the doctor sees at least 10 - 15 patients in their consultation hour, therefore it becomes pertinent for the medical practitioners to understand the patient's history and illness. Only then does the real diagnosis happen.

Identification of problems and concern: Once the patient finishes the discussion of symptoms, he/she wants to know the mode of treatment. If the session has gone well, then it leads to successful identification of the illness and the treatment regime will be considered by the patient.

Thus, more recent approaches to medical consultation is not just assessment of medical anomaly but also assessing non-medical (psychosocial) issues along with the history of illness (See Diagram-1). Broadly, a medical consultation session should cover two aspects, i.e. Medical (Biomedical aspects) and Non-medical (Psychosocial aspects). Medical aspects include the pathophysiology of disease that is assessed through symptoms of the disease, analyzing the



Picture 1: Consultation Session

diagnostic report and the history of illness. Non-medical aspects include the true emotional trauma of patients behind their illness. Basically, a good consultation should follow a set schedule which starts with the formal interaction and goes into the depth of concern areas. Gask and Usherwood identified three major features of the consultation. They are as follows

- (a) Style with which a doctor listens to a patient will influence what they say.
- (b) Effective communication between doctor and patient leads to improved outcome for many common diseases.
- (c) Patients' compliance will be improved if the management plan has been negotiated jointly.

Once these features are met in the consultation session, only then are they effective and fruitful. Many-a-times, doctors often fail in covering all these tasks. They cannot get the correct information regarding the patient's agony and this affects quality of consultation. They do not check how well the patient has opened up with their problems and thereby rapport cannot be established. Henceforth, doctors should be competent in maintaining fruitful interaction with patients.

It is estimated that a doctor might perform 200,000 medical consultations in his/her lifetime but the success of the medical consultation depends on the doctor's clinical knowledge, interview skills and doctor-patient relationship. A study by Roter and colleagues (1998) concluded that those physicians who are trained in non-verbal communication skills, ask more open-ended questions, and use greater emotional talk and are more likely to receive greater personal- and disease-related information from their patients. It leads to more satisfied patients and their chances to follow the treatment prescribed more strenuously (Ford, Bach, and Fottler 1997; Parente, Pinto, and Barber 2005; Zandbeh et al. 2007).

Consultation time also plays a crucial role in assessing the quality of medical consultation session. Generally, medical consultations last about 6 minutes, although this can vary from about 2 minutes to over 20 minutes. This time pressure results in tightly controlled doctor-centred (or 'paternalistic') consultation with less attention paid to the social and psychological aspects of a patient's illness. Therefore, less psychological problems are identified and more prescriptions are issued (Howie et al 1992). Average consultation time was found to be 8 minutes in a UK study. Other studies conducted by Ridsdale and his colleagues (1992) conclude that the time available for consultations was increased to 10 minutes. Patients' satisfaction would have increased by improving the way time is spent within the consultation (Ogden J 2004). Satisfaction can be infused only when the doctor increases the time of consultation and explains the patient's concerns clearly (Tuckett et al 1985).

Another qualitative study by Barry et al (2000) that was based on 35 patients (18 years plus) and 20 general practitioner consultants, found that only four of 35 patients voiced their concerns during the consultation.

Again this data also puts a serious question mark on the psycho-social perspective of the consultation session. Thus, it becomes imperative to analyze the nitty-gritty of consultation session. How it can be done effectively? Are the consultation sessions really covering the biomedical as well as psychosocial perspective also? Can it be used in training medical representatives for making their interaction with doctors more fruitful? Maybe the findings can bring some fruitful changes in the consultation session. This case study is an attempt to address these intriguing situations.

As shown in the study done by Fottler et al (2011) some patients also believe or feel that hospitals and health care systems go so far as to regard them as guests as stated. Another study conducted by Agnieszka (2012) also stated that permanent improvement in quality of health care can be enhanced through interpersonal communication and it simultaneously shapes the attitudes and behaviours of health (medical) staff as well as consumers of health services (patients).

Epilogue: These cases of medical consultation tried to unravel the role of doctors. These can also be used as training materials for medical representatives as they get to know what exactly is happening in the chamber and helps them in preparing themselves for their meeting with the doctors. All these different observations derived from medical consultation sessions resulted in an amazing perspective:

- Medical consultations are really meeting the criteria of fruitful interaction level or they are only depictions of routine doctor-patient interaction.
- Doctors are really practising the non-medical (behavioural/ psychosocial pattern) as well as medical (biomedical) perspectives of medical consultation or are busy in calculating the number of patients.
- Doctors effectively utilize the time span of whole medical consultation session or they are simply keeping track of the number of patients who have visited them.
- Patient involvement in the medical consultation session is required especially when the disease falls into the category of life style diseases such as Cancer, Diabetes, Cardiac diseases.
- Patient's outlook is to be a treatment seeker or is an active participant in the treatment schedule.

This case study dealt with all the phases mentioned in the Calgary-Cambridge model and also analyzed the biomedical (medical) and psychosocial (non-medical) aspects of medical consultation sessions but a few issues are not covered. Details of clinical assessment and safety netting (ability of the doctor to consider good or bad outcome of the consultation and be ready with plan 'B') are the issues that have to be explored more in future studies.

References

1. Agnieszka Macia G. Assessment of effectiveness of the interpersonal communication on the doctor-patient level in Poland. *International Journal of Healthcare Management*. 2012; VOL.5, NO.2:85-92.
2. A.Raju. (2013). Healthcare sector witnessing major transition. www.Pharmabiz.com
3. Barry CA et al (2000). Patients' unvoiced agendas in general practice consultations: qualitative study. *British Medical Journal* 320:1245-50.
4. Balint M; *The doctor, his patient and the illness*. Churchill Livingstone; First published 1957, update 1964.
5. Deveugele M, Derese A, De Bacquer D, van den Brink-Muinen A et al. (2004). Consultation in general practice: a standard operating procedure? *Patient Educ Couns* Aug;54(2):227-33
6. Esterling B., Antoni M., Kumar M., Schneiderman N.(1990). Emotional repression, stress disclosure responses and Epstein-Barr viral capsid antigen titers. *Psychosom Med*. 52:397-410.
7. Francis J. Keefe, Amy P. Abernethy, and Lisa C. Campbell. Psychological approaches to understanding and treating disease-related pain. *The Annual Review of Psychology*, July 13-2004: 617.
8. Ford, R. C, S. A. Bach, and M. D. Fottler. (1997). "Methods of Measuring Patient Satisfaction in Health Care Organizations." *Health Care Management Review* 22 (2): 74-89.
9. Fottler, M. D., R. C. Ford, and C. R Heaton (2011). *Achieving Service Excellence: Strategies for Healthcare*, 2nd edition. Chicago: Health Administration Press.
10. Gask L., Usherwood T. ABC of psychological medicine: the consultation. *BMJ*. 2002; 324:1567- 1569.
11. Howie JGR et al 1992. Attitudes to medical care, the organisation of work, and work stress among general practitioners. *British Journal of General Practice* 42:181-185
12. Jenkins V, Fallowfield L, Saul J 2001 Information needs of patients with cancer: results from a large study in UK cancer centers. *British Journal of Cancer* 84(1):48-51
13. Kannel WB, McGee D, Gordon T. A general cardiovascular risk profile: the Framingham study. *Am J Cardiol*. 1976; 38:46-51.
14. Kannel WB, Neaton JD, Wentworth D, Thomas HE, Stamler J, Hulley SB, Kjelsberg MO. Overall and coronary heart disease mortality rates in relation to major risk factors in 325,348 men screened for the MRFIT. *Am Heart J*.1986; 112:825-836.
15. Kurtz S., Silverman J., Benson J., Draper J. Radcliffe Medical Press; Oxford: 1998. *Teaching and learning communication skills in medicine*.
16. Maguire P., Faulkner A., Booth K (1996). Helping cancer patients disclose their concerns. *Eur J Cancer*; 32a:78-81.
17. Maguire P., Pitceathly C. Clinical review: key communication skills and how to acquire them. *BMJ*. 2002; 325:697-700.
18. Mishler EG (1984). *The discourse of medicine, dialectics of medical interviews*. Ablex Publishing Corporation, Norwood, NJ.
19. Ogden J, Bavalia K, Bull M, et al. (2004). "I want more time with my doctor": a quantitative study of time and the consultation. *Fam Pract*. Oct; 21(5):479-83.
20. Pendleton D, Schofield T, Tate P & Havelock P.(1984). *The Consultation: An Approach to Learning and Teaching*: Oxford: OUP.
21. Ridsdale L, Morgan M, Morris R 1992 Doctors' interviewing technique and its response to different booking time. *Family Practice* 9:57-60
22. Roter, D., Rosenbaum, J., Negri, B., Renaud, D., DiPrete-Brown, L., & Hernandez, O.(1998). The effects of a continuing medical education program in interpersonal communication skills on doctor practice and patient satisfaction in Trinidad and Tobago. *Medical Education*, 32, 181-197.
23. Silverman J., Kurtz S., Draper J. 2nd edn. Radcliffe Publishing; Oxford: 2005. *Skills for communication with patients*
24. Smith R (2000). Thoughts for new medical students at a new medical school. *BMJ*. Dec 20; 327(7429):1430-3.
25. Subramaniam I, Gold JL. Diabetes mellitus in elderly: An overview. *J Indian Academy Geriatr* 2005; 2:77-81.
26. Tuckett D, Boulton M, Oban C, Williams A (1985). *Meetings between experts: an approach to sharing ideas in medical consultations*. Tavistock Publications, London.
27. Turk DC. 2002. Remember the distinction between malignant and benign pain? Well, forget it. *Clin. J. Pain* 18(2):75-76.
28. Waddell G, Aylward M (2005). *The Scientific and Conceptual Basis of Incapacity Benefits*. London: TSO.
29. Waddell G., Aylward M. Royal Society of Medicine Press Ltd; London: 2010. *Models of sickness and disability: applied to common health problems*.
30. Zandbelt, L. C, E. M. Smets, F. I. Oort, M. H. Codfried, and H. C. de Haes. 2007. "Medical Specialists' Patient-Centered Communication and Patient-Reported Outcomes." *Medical Care* 45 (4): 330-39.

Public Assessment of Social and Economic Rehabilitation Component of Leprosy Control Programmes in Anambra and Ebonyi States of Southeast Nigeria

Nwankwo, Ignatius Uche

Correspondence:

Nwankwo, Ignatius Uche, Ph.D.
Department of Sociology/Anthropology
Nnamdi Azikiwe University, Awka, Anambra State,
Nigeria
Email: iunwankwo@yahoo.com

Abstract

Three major objectives informed this research paper. The first was to find out the types of social and economic rehabilitation (SER) activities available to persons affected by leprosy (PAL) in Anambra and Ebonyi states of Southeast Nigeria. The second is to find out the nature of public perception on adequacy and outcomes of social and economic rehabilitation packages for leprosy cases, while the third is to verify public view about adequacy or otherwise of funding for social and economic rehabilitation of persons affected by leprosy in the two states. The study adopted a cross-sectional survey design. Quantitative data was generated through structured questionnaire schedule administered on 1116 study participants. The participants were selected through a combination of cluster and simple random sampling methods. Qualitative data were generated through two instruments. These were Focus Group Discussion (FGD) administered on persons affected by leprosy and In-Depth Interview (IDI) of leprosy control staff and officials from both World Health Organization and the donor agency supporting leprosy control in the two states. The Statistical Package for the Social Sciences (SPSS) software was employed in analysis of data. Frequency tables, percentages, bar charts, chi-square and multiple regressions were used for presentation, analysis and in testing the stated hypotheses. It was found that only 25.5% of the respondents

acknowledged availability of SER component which is institutional rather than community based. Furthermore, most respondents assessed SER activities in leprosy control in the two states as largely unsuccessful. One hypothesis test showed that more respondents with low income perceived a link between adequate funding and effective leprosy control programme than those with higher levels of income ($\chi^2=190.427, df=70, p=0.000$). It was recommended that aggressive public enlightenment through public, private and local media; incentive package for health workers and extensive socio-economic empowerment for effective rehabilitation of patients be adopted to enhance leprosy control in Anambra and Ebonyi states.

Key words: Assessment, Leprosy, Leprosy Control, Social and Economic Rehabilitation, Empowerment

Introduction

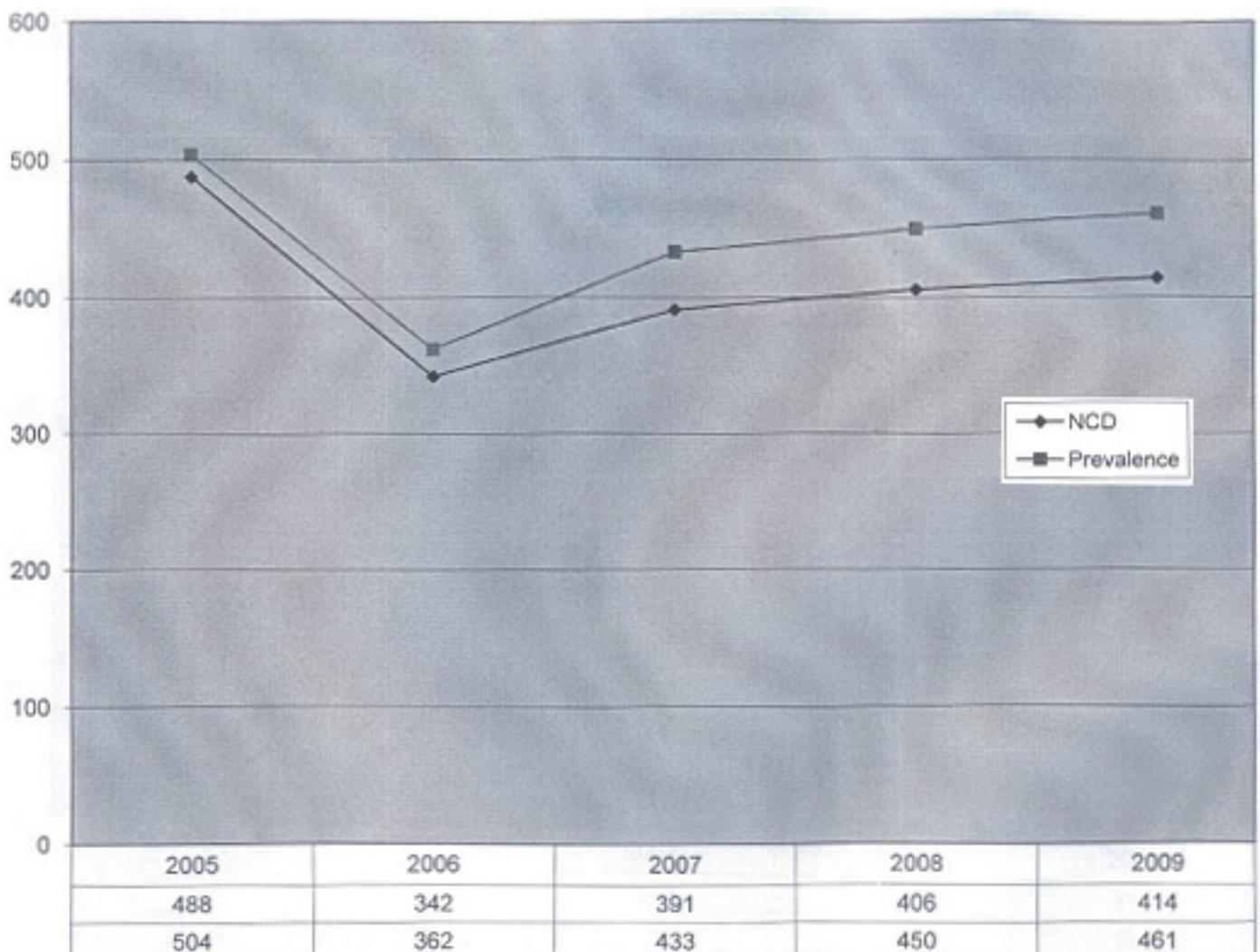
Leprosy is one of the oldest diseases of mankind. It has a unique social dimension that often culminates in the total destabilization of the social life of its victims. From the earliest times, leprosy has been a disease set apart from others. Its victims and even their care givers are ostracised in many societies. Although the disease seldom kills (Bryceson and Pfaltzgraff 1990), it remains a public health problem and cause of morbidity especially in developing countries like Nigeria. The disease is also one of the leading causes of permanent disability worldwide and has over the year's left a terrifying memory of mutilation, rejection and social exclusion (Lockwood, 2000). There are serious problems confronting control programmes and victims of leprosy in affected countries. In Nigeria, Sofola (1999) expresses concern at poor funding of leprosy control activities. There is also an enormous problem of policy inconsistency in the area of leprosy control. The initial emphasis of control activities was on isolation of victims at Leprosaria where specialist health staff attend to them. The gains of this original focus were as yet not fully tapped when a shift in policy was initiated. According to Eboh (1999), the old arrangement contributed to the

difficulty in achieving the present policy thrust of integrating leprosy control programme with general primary health care. It also resulted in the failure of newer measures to attain optimal results, since most people still adhere to the old practices.

Particularly disturbing is the graph below from World Health Organization (WHO) Southeast of Nigeria Office (2010), which shows that the Southeast zone of Nigeria has consistently recorded increases (rather than decreases) in both new case detection and prevalence of leprosy since 2006-2009. This raises fundamental questions about the potency of leprosy control programme and whether leprosy should be classified as a re-emerging disease in the area and for what reasons.

Furthermore, poor leprosy control outcomes have persisted to the extent that a former World Health Organization's Country Representative in Nigeria, Dr Peter Ekiti lamented that in 2008; only 14% of the estimated new leprosy cases in Nigeria were actually detected and enrolled for treatment (Ekiti, 2010). Similarly, Adagba (2011) and was very critical that prevalence of leprosy among children in Nigeria is still high and unacceptable.

Figure 1: Leprosy New Case Detection (NCD) and Prevalence, 2005 - 2009 for South-east Zone of Nigeria



Source: World Health Organisation, Southeast Zonal Office, Enugu Nigeria, (2010).

In 2008, Nigeria was ranked at the fifth position among nations with high leprosy burden in the world, and in Africa, second only to Republic of Congo (W.H.O, 2008). Nigeria's registered prevalence of leprosy as at 2002 was 5890 (FMOH, 2004). It declined to 5381 by the beginning of 2008 (W.H.O, 2008) and further to 3913 cases at the end of 2010 (Adagba, 2011). The above situation appears to be compounded by enormous fear of leprosy among the Nigerian populace (Ogoegbulem, 2000). In many parts of Nigeria, despite the existence of leprosy control activities since the pre-Dapsone era of 1900-1947, the fear and stigma of leprosy remains high and separates persons affected by leprosy (PAL) from their fellows. Nicholls (2000) had similarly observed that in both Eastern and Western cultures, fear of leprosy has existed from ancient times.

On the other hand, Osakwe (2004) regretted that community participation which is a crucial element in leprosy control has remained weak in Nigeria. Consequently, community response or behaviour toward those suffering from leprosy is characterized by avoidance, insult and rejection of victims. Even discharged leprosy ex-patients are not spared of these actions that also constitute violation of human rights.

Nicholls (2000) further observes that leprosy more than any other disease has caused individuals to leave their families and communities and be forced to live as outcasts in separate colonies and settlements. Some of such colonies or settlements are still operating at Okija, Otolo-Nnewi, and Amichi communities in Anambra state; and at Mile Four Abakaliki and Uburu communities at Ebonyi state. There are others at other parts of Nigeria. Their continued operation is an evidence of the failure of the National Leprosy Control Programme to implement home based or ambulatory care arrangement where most patients access treatment from their homes, except those who are in critical conditions and require hospitalization. The advantage of home based care in reducing segregation and facilitating the new thrust toward Community Based Rehabilitation (CBR) cannot be over-emphasized. Also problematic is the fact that at such colonies, inmates live in dilapidated structures surrounded by bushes in more or less inhuman conditions. An integrated and effective leprosy control programme has a responsibility to provide conducive living and treatment environment to persons affected by leprosy. It should indeed address their bio-medical, social and economic needs.

Accordingly, Smith (2000) notes that Social and Economic Rehabilitation (SER) is a major priority in any leprosy control effort. This emphasis according to W.H.O (1999) is aimed at addressing problems of stigmatization, inability to work, social isolation and economic dependency. However, Ogbeiwi (2005) reports that the SER component of Nigeria's National Leprosy Control Programme does not reflect the priority it deserves; hence it is yet to make any appreciable impact. Persons affected by leprosy in Southeast Nigeria are already burdened by medical and bio-physical challenges posed by the disease. Their having to further contend with very serious social, economic and psychological problems arising from societal perception and consequent reactions

to their predicament are weighty. Ogoegbulem (2000), reports that they often encounter severe loss of dignifying self concept and social recognition. They are not usually welcome at public functions. On rare occasions where these patients or ex-patients force themselves unto a gathering, this might result either in an abrupt dismissal of participants or in avoidance of any form of physical contact with them. Indeed, Nigerians are afraid to sit near persons affected by leprosy at churches, markets, vehicles; village squares and so on. They are also reluctant to marry from families of known leprosy patients (Ogoegbulem, 2000).

The lack of friendship and other forms of association as well as divorce or threats of divorce from spouses constitute part of the numerous social problems faced by persons affected by leprosy. The control programme in Nigeria ought to find answers to these myriad of problems.

In another development, the value of the use of economic empowerment as a tool of leprosy control has been extensively documented by scholars. Examples of these are Nash (2001); Federal Ministry of Health (FMOH, 1997); Macaden (1996); Pearson (1988). However, Ogbeiwi (2005) notes that the approach is yet to be adequately exploited in Nigeria. This is despite the fact that the disease is widely known to have devastating effect on the economic life of its victims. For instance, Rafferty (2005), notes that leprosy destroys productivity of victims through series of disablement or lack of physical function which it engenders. The situation is complicated by the fact that societies avoid goods and services offered by persons affected by leprosy. Such poor patronage tends to de-motivate the victims as it forces them to abandon their trades.

In the light of the above and given the inadequacy of economic support package from the control programme, persons affected by leprosy often resort to begging on the streets as means of self-sustenance. Consequently, markets, bus-stops, motor-parks, entrances to churches, banks and offices are littered with these destitute. This constitutes a threat to public health. It also generates public outcry about the welfare of persons affected by leprosy which the control programme has a responsibility to protect.

The lukewarm attitude of health workers toward leprosy control activities (Adagba, 2011) is also a major challenge facing the control programme. Poor allowances, negative cultural reactions towards leprosy and fear of contracting the disease negatively affect the disposition of health workers to committed service. Consequently, the workers have not prosecuted aspects such as public health education and ulcer dressing in leprosy with sufficient zeal and enthusiasm. Because of this, individuals and groups have expressed deep concerns about poorly maintained leprosy ulcers often exuding odorous discharges and attracting flies which have become regular feature of persons affected by leprosy. Leprosy victims endure the pain of such ulcers as they move about to solicit for alms. These patients are also unsightly and degrade the aesthetic beauty of neighbourhoods by their low level of personal and environmental hygiene.

The gender dimension and social stratification implications of leprosy are other areas which the control programme is yet to adequately address. The gender dimension of leprosy is such that women encounter the severest forms of social, economic and psychological consequences compared to their male counterparts upon diagnosis of leprosy (Kaur and Rameshi 1994; Grand 1997; Rao, Garole and Walawalker 1996). Women do not also occupy important positions in self help groups formed by patients in their colonies. This is especially so in a highly patriarchal society like the South-eastern part of Nigeria where subservient position and economic dependence of women on men are culturally defined. Sofola (1999), observes that in many leprosy colonies in Nigeria, women affected by leprosy get smaller portions of land for cultivation compared to the males. Observation of the current situation suggests that equality of the sexes in accessing rights and privileges accruable from leprosy control programme remains defective in Nigeria.

Valsa (1999) examined social acceptance and social stratification implications of leprosy. He found that those affected could lose their position in the social ranking of society. They could be barred from taking important titles or occupying positions of authority and honour. They are not allowed to officiate important occasions or to perform important rites associated with such occasions even when it is their right by birth in the community to do so (Kaufman, Neville and Miriam, 1993; Ogoegbulem, 2000). Expectations that leprosy control programme in Nigeria would reverse the trend so far remains a mirage. Above all, although WHO introduced Multiple Drug Therapy (MDT) since 1985 as drug of choice for leprosy (FMOH, 2008), it appears that the treatment component of leprosy control programmes have failed to respond to the needs of persons affected by leprosy for cure or full recovery without any deformity. The situation is such that it is often difficult to distinguish between victims who accessed treatment services from those who did not due to permanent disabilities. Also, their social and economic predicaments are similar in most respects thus indicating that the rehabilitation process of those who accessed treatment services was not successful. Ogoegbulem (2000) observes that victims of leprosy who have completed treatment in parts of Nigeria are not fully reunited and reintegrated into the society and generally lack means of sustenance.

The seemingly resilient nature of leprosy and its associated problems in Nigeria generate doubts about the sincerity and commitment of National Leprosy Control Programmes toward eradication of leprosy by World Health Organization's global target date. It is against the backdrop of the above background and problems that the research was undertaken to investigate public assessment of social and economic rehabilitation component of leprosy control programmes in Anambra and Ebonyi states of Southeast Nigeria.

Brief Review of Literature on Role of Social and Economic Rehabilitation (SER) in Leprosy Control

The role of rehabilitation as one of the most important aspects of leprosy control has been emphasized by several scholars (see Nash 2001; Macaden 1996; Pearson 1988; FMOH 1997). According to Nash (2001), rehabilitation of persons affected by leprosy is a process that helps them to feel accepted, valued and included in their community. It assists them live as normal a life as possible. Pearson (1988) defines it as the diagnosis, treatment and prevention of debilitation occasioned by leprosy.

Rehabilitation for leprosy patients usually involves physical, social, economic and psychological components (FMOH, 1997). Pearson (1988) gave reasons for the multiple levels of emphasis. He noted that leprosy can cause its victims to lose physical forms, family and place in society. It can also cause them to lose their work, other means of livelihood and their self respect. These situations Pearson says require detailed rehabilitation response.

According to Macaden (1996), rehabilitation services for persons affected by leprosy could be organised in three ways as follows:

- a. Institution Based Rehabilitation** - where patients lived in and accessed rehabilitation service only at the health institution, usually a Leprosarium. Patients were not integrated into their family or community.
- b. Outreach Services** - obtainable at camps, outreach service points and patient's home
- c. Community Based Rehabilitation (CBR).** This is the current emphasis both in Nigeria and globally (FMOH, 1997). It seeks not only to help people overcome their impairments, but also to help them to settle back fully in their communities. CBR in leprosy control adopts an integrated approach. It involves community participation in provision of rehabilitation services to patients with diverse social, economic, physical and psychological needs (FMOH, 1997).

Macaden (1996) similarly stressed that CBR in leprosy transfers to members of the family of the patient and the community in which they live, the skills needed to manage physical impairments and to provide vocational training and placement. On his part Nash (2001) notes that the role of community participation in CBR is very crucial to the extent that sometimes, the community needs as much rehabilitation as the persons affected by leprosy in order to creditably discharge their role in rehabilitation.

Smith (2000) also saw social and economic rehabilitation (SER) of people affected by leprosy as a major priority that requires considerable emphasis by control programmes. This emphasis according to W.H.O (1999), is sequel to problems of stigmatization, shame, isolation, inability to work or marry, dependency on others for care and financial support which persons affected by leprosy are exposed to in many societies.

Nash (2001) reports that in Nigeria, adherence to guidelines on social and economic rehabilitation has been useful in restoration of normal social and economic life of persons affected by leprosy. He observed that preliminary need assessment of patients and active community participation have ensured that they fitted into new socio-economic roles like poultry keeping, soap making, weaving, tailoring, shoe-making etc. Such roles he says, restores social acceptance and respect to patients.

Chukwu (2004) also looked at the practice of CBR in Nigeria. He commended German Leprosy Relief Association's support towards social and economic rehabilitation of persons affected by leprosy across fourteen states in the Southeast and Southwest of Nigeria. He noted that the organization has built houses, and paid subsistence allowance to patients. They have also bought motorcycles for public transport services and given capital to enable persons affected by leprosy to start their own businesses. Despite these supports by German Leprosy Relief Association, Chukwu (2004) insists that contributions of the rehabilitation arm of leprosy control remains insignificant across most of Nigeria. According to him, persons affected by leprosy experience various forms of discrimination on account of the disease. Many of them have no means of subsistence and depend on begging to survive.

Research Questions

The following research questions guided the study:

- (a) What types of social and economic rehabilitation programmes are available to persons affected by leprosy in Anambra and Ebonyi states?
- (b) What are the perceived outcomes of social and economic rehabilitation of persons affected by leprosy in Anambra and Ebonyi states?
- (c) How do people of Anambra and Ebonyi States of Southeast Nigeria perceive the level of funding for social and economic rehabilitation of persons affected by leprosy in their area in terms of its adequacy?

Theoretical Framework

The labelling theory is relevant in explaining the problem of leprosy in the study area. Labelling theory is particularly useful in the analysis of the qualitative data. This is because of its emphasis on social constructionism.

Labelling theory was also adopted as the theoretical platform because its basic postulations explicitly relate to the process of social definition and stigma surrounding leprosy. These are central issues to leprosy problem in society. Negative cultural imaging of leprosy, and the manner in which societies through the instrument of language defined leprosy as a curse from gods, or as disease of the unclean, have adverse consequences for its control. People are reluctant to be associated with the

disease whether as patients or health workers because of the stigma attached to it. It is therefore not surprising that despite its long history and availability of free and effective drugs (FMOH, 2004), leprosy remains a public health problem in our environment.

Adverse religious perspectives on leprosy have also done much to intensify leprosy stigma and worsen problems arising from leprosy in our society. Awofeso (2005) notes that biblical references like Leviticus 13:45; Numbers 5:2; and 2 Kings 26:21 create an impression that leprosy is a dreaded disease associated with sinners. He observes also that Buddhist teaching on Karma make it acceptable for believers to frame leprosy sufferers as sinners in their past incarnation. These conceptions compounded by low level of education, constitute major obstacles to leprosy control.

Labeling also offers adequate explanation to why persons affected by leprosy try to cover up their disease and fail to avail themselves of early treatment. The situation results in severe deformities and complications. The theory also accounts for the lack of enthusiasm of health workers to leprosy work, and for low level of integration of patients into their community.

Materials and Methods

The study located in Anambra and Ebonyi states, randomly selected out of five states of Southeast Nigeria, adopted cross-sectional survey design. The Southeast zone of Nigeria was purposively selected because of the steady increase (rather than decrease) in number of leprosy cases registered annually in the zone during 2006 - 2009 (see Table 1 - top of next page).

The indigenous ethnic group in the two states are the Igbo of whom Ifemesia (1979) observes that their territory covers an area of over 15,800 square miles. Nwala (1985) circumscribed the area between 6° and 8½° East longitude and 4½° and 7½° North latitude. He noted that Igbo land is very densely populated.

Anambra and Ebonyi states are rich in natural resources and arable soil. Land cultivation, trading, arts and crafts, animal husbandry and civil service are major economic activities in the two states. However, people of Anambra state are more involved in entrepreneurship and commerce whereas Ebonyi state is notable for agricultural prowess (Uzozie 2002; Onokala 2002).

There is an elected civilian government in Anambra and Ebonyi states whose role in governance of the area is complemented by socio-political structures and pressure groups that characterize Igbo traditional societies like gerontocracy, village assembly, titled men, women groups all of which are relevant to grass root administration in both states. Similarly, Christianity enjoys greater followership in the area but exists side by side with traditional religion which still has many adherents.

Table 1: Distribution of Leprosy cases according to States in the Southeast Zone of Nigeria during the period 2006-2009

State	Registered cases of leprosy				Total per state from 2006-2009
	2006	2007	2008	2009	
Abia	99	112	127	74	412
Anambra	13	46	27	27	113
Ebonyi	148	175	204	279	806
Enugu	73	67	66	51	257
Imo	29	33	26	30	118
Total for the zone per year	362	433	450	461	

Source: World Health Organisation, Southeast Area Office, Enugu - Nigeria, (2010). Leprosy New Case Detection, Case Detection Rate and Prevalence Rate for Southeast Zone, 2006-2009.

Table 2: Local Government Areas (LGA), Communities and Villages used in the study

States	LGAs	Communities	Villages/Streets	Compounds Visited	No of Respondents
ANAMBRA	Nnewi North (Urban)	Otolo	Orizu Road	62	186
	Idemili South (Rural)	Alor	Ifite village	62	186
	Awka North (Rural)	Achalla	Umudiana village	62	186
EBONYI	Abakaliki (Urban)	Abakaliki	Ibibio Street	62	186
	Ohaozara (Rural)	Okposi	Okposi-ukwu	62	186
	Ohaukwu (Rural)	Efiom	Akparata village	62	186
Total	6 LGAs	6 Communities	6 Villages/Str.	372	1116

Source: Field Survey, 2010

The total population of Anambra and Ebonyi states as at 2006 national population and housing census in Nigeria was 6,354,775 made up of 3,182,140 males and 3,172,791 females. However, the study population consisted of only adults, defined as persons aged 18 years and above. There are about 3,515,370 adults in the area which represented 57.2% of the total population.

A sample size of 1116 respondents (558 from each state) constituting about 0.32% of the study population was used to generate quantitative data in this study. The sample was adequate for applicable statistical tests. The sample also accommodated geographical spread and rural-urban bias at the ratio of 2:1.

Qualitative data was generated from 64 respondents made up of 52 persons affected by leprosy (26 from each state); 6 LGA leprosy control supervisors (3 from Anambra and 3

from Ebonyi) on the basis of one supervisor per selected LGA in each state; 4 officers from Leprosy Control Units of Ministry of Health in the two states (2 from each state) and one official each from Donor Agency supporting leprosy control and World Health Organization. The cluster (multistage) sampling approach involving division of the population or geographical area into units and selecting specific number of these units by simple random sampling techniques was adopted for selection of members of the public.

Three instruments were combined in the study for optimum results. Quantitative data were collected through questionnaire with closed and open ended items administered on a one-on-one (other administered) basis with all respondents. The instrument was pre-tested by the researcher and five Field Assistants pre-trained for the purpose in four sessions outside the study communities,

at Eziani- Ihiala, in Ihiala LGA of Anambra state with 40 compounds/households and 120 respondents. This was to ensure reliability and suitability of the instrument to meet study objectives. The language of administration was Igbo, spoken in the area, because there were many respondents who could not read, write or understand English language. Nonetheless, English was used where any respondent showed preference for English language. The instrument which was originally in English was translated into the local language, which is Igbo and retranslated into English, to provide both Igbo and English versions. Same sex administration of questionnaire was carried out to prevent any cultural barriers and permit free discussion or responses to questionnaire items.

Qualitative data were gathered through Focus Group Discussions (FGD) and In-Depth Interview (IDI). The FGD involved persons affected by leprosy (patients) who were not respondents in the questionnaire study. There were four FGD sessions with 6-12 participants per session. Participants were segmented along gender. Two FGD sessions were conducted at Mile Four Hospital Abakaliki, Ebonyi state for male and female groups respectively. The other two were conducted at Fr Damian Tuberculosis and Leprosy Referral Hospital Nnewi, Anambra state. Both institutions were convenient to both in and out-patients. Each session was held on leprosy clinic days which are usually market free days in the area of study. The moderator of the FGD was of the same sex with their FGD group and worked with the co-operation of leprosy control staff on duty. There were also two assistants for each FGD session. The language of administration was Igbo. A tape recorder and field notebook was used to record proceedings. One assistant took notes in the course of each session while the other served as Tape Recorder Operator.

The second qualitative tool was the conduct of In-Depth Interview (IDI). It was used to interrogate four officials who are major stakeholders in leprosy control project. These were Leprosy Control Officers or their assistant in the two states, Medical Officer of German Leprosy Relief Association, and W.H.O's Principal Officer for Leprosy Control for Southeast Area of Nigeria. The interview schedule was unstructured and tailored to generate detailed information on the subject of study. The in-depth interviews were conducted by the researcher and two of the assistants at the offices of the stated officials. Tape recorder and field note book were used to record responses from interviewees. The interview schedule guided the interview which was conducted in English language due to respondents' preference and literacy level.

Quantitative data gathered in the course of research were analysed with the help of the Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics like frequency distribution tables, mean, median, percentages and bar-charts were used to interpret data. One correlation analysis (the chi-square) was employed in hypotheses test. On the other hand, qualitative data generated through FGD and IDI were transcribed and organised under different aspects of the discussion and used to explain quantitative data where applicable.

Research findings

One thousand, one hundred and sixteen (1116) questionnaires were administered out of which 1104 were used for analysis after coding and cleaning/ editing all validly completed and returned questionnaire schedules. Results and their analysis were presented according to research questions for easy comprehension.

(a) Socio-Demographic/Personal Characteristics of Respondents

The socio-demographic profile of respondents is presented in Table 3 (next page).

Table 3 shows that females constituted 54.3% of the total respondents, while the males constituted 45.7%. Many of the respondents (29.5%) fall within the age bracket of 38 - 47 years. The least number of respondents (4.3%) came from the age - group of 45 years and above. However, the modal and median ages were 41 and 45 years respectively. Also, the mean age of respondents was 40.33 years with a standard deviation of 13.45.

With regard to the marital status of the respondents, 45.2% were married while 32.9% are single. The widowed, separated and divorced respondents were very few (11.7%, 5.6% and 4.6% respectively). The large number of married respondents illuminates the high premium placed on marriage and family institution in the area. Similarly, divorce is low probably because the value system abhors it. Being married and having stable marriage are accorded high esteem and social honour among Igbo people.

With respect to religious affiliation, the table clearly shows that more than three-quarters of the respondents (80.6%) were Christians. A few of the respondents belong to other religious groups including Islam (1.9%), traditional religion (17.1%) and other unspecified groups (.4%).

In terms of highest formal educational attainment, those who possess secondary school certificate constituted 37.5% of the respondents. Other categories of educational attainment/ certification were tertiary (21.3%), vocational/ technical school (15.2%), and primary school certificate holders (12.9%). With only 13.1% of the respondents without any form of formal education, the literacy level in the area is relatively high. However, more respondents from Anambra state (27.7%) had tertiary education than those from Ebonyi state where only 15% had tertiary education.

The respondents were almost equally divided across three major occupations. These are farmers (23.6%), traders (22%), and civil/public servants (21.6%). Students, apprentices, artisans and the unemployed were few. They constituted 10.8%, 7.7%, 7.2%, and 6.7% respectively. The occupational distribution of the respondents highlighted above mirrors the popular description of Ebonyi state as food basket (major agricultural zone) of the nation, and Anambra state as center for commerce and other entrepreneurial activities. The predominance of farmers

Table 3: Distribution of Respondents by Socio-Demographic Characteristics

Socio – Demographic Characteristics (Items 1 – 11)	Frequency N = 1104	Percentage %
Sex		
Male	505	45.7
Female	599	54.3
Age Group		
18 – 27	246	22.3
28 – 37	206	18.7
38 – 47	326	29.5
48 – 57	201	18.2
58 – 67	78	7.1
68 and above	47	4.3
Marital Status		
Married	499	45.2
Single	363	32.9
Divorced	51	4.6
Separated	62	5.6
Widowed	129	11.7
Religious Affiliation		
Christianity	890	80.6
Islam	21	1.9
Traditional Religion	189	17.1
Others	4	.4
Highest formal Educational Attainment		
No Formal Education	145	13.1
Primary School Certificate	142	12.9
Secondary School Certificate	414	37.5
Vocational/Technical School Certificate	168	15.2
Tertiary	235	21.3
Occupation		
Civil/Public Servant	239	21.6
Trader/Business man	243	22.0
Farmer	260	23.6
Student	119	10.8
Apprentice	85	7.7
Artisan	80	7.2
Unemployed	74	6.7
Others	4	.4
Nature of Income Per Month		
Regular	239	21.6
Periodic	634	57.4
No Income	231	20.9
Income Per Quarter of a year (every 3 months period)		
None	232	21
Below N30,000	147	13.3
N31,000 – N50,000	141	12.8
N51,000 – N70,000	123	11.1
N71,000 – N90,000	149	13.5
N91,000 – N110,000	124	11.2
N111,000 – N130,000	93	8.4
Above N131,000	95	8.6

Source: Field Survey, 2010.

and traders in the area of study is therefore not a major surprise. However, the nature of income reveals that most of the respondents (57.4%) earn periodic income; 21.6% earn regular income on monthly basis, while 20.9% earn no income at all.

In terms of actual income earned per quarter (every three months), many of the respondents (21%) earn no income. These include students, apprentices, some artisans and the unemployed. More than two-thirds of these respondents that earn no income are from Anambra state. Furthermore, 13.5% of the respondents earn below N30,000 per quarter, and only 8.6% earn above N131,000 per quarter. This shows that income status of individuals within the area of study is generally low. The mean income per quarter of the respondents is about N59,033 with a standard deviation of N45,933. The median income stood at about N55,378.

(c) Research Question 1: What types of social and economic rehabilitation programmes are available to persons affected by leprosy in Anambra and Ebonyi states?

Data relevant to the research question are presented in Tables 4 and 5 below.

Table 4 shows that 66% of the respondents stated that there was no SER component of leprosy control in their area. Only 25.5% of the respondents acknowledged existence of any form of SER activities. However, more respondents

from Ebonyi state (75.3%) were of the view that SER was not a component of leprosy control in their state as against 56.6% who had a similar opinion at Anambra state. Also, most of the respondents (60.7%) identified the core rehabilitation strategy as institutional or colony based (see Table 5 below).. This suggests that the current thrust of World Health Organization (WHO) towards Community Based Rehabilitation (CBR) is yet to make an appreciable impact in the two states.

The specific SER activities provided or available to patients were also identified. They included resettlement of persons affected by leprosy in colonies which ranked tops with 36.7% of responses. Others were public re-orientation (17.3%), vocational / occupational training (12.6%), and financial support to set-up small businesses (10.9%).

Furthermore, approximately half of the respondents (49.5%) were of the view that government, NGOs, companies, philanthropists and faith based organizations do not provide support for SER activities. Only about 14.9% and 11.1% of the respondents acknowledged NGO and government support for SER activities as part of leprosy.

Similarly, most of the respondents (79.0%) were also of the opinion that vocational training was not provided to leprosy patients. In a similar vein, most of the respondents (78.8%) submitted that vocational training in the areas of carpentry; shoe making, tailoring, weaving and soap making were not provided as part of leprosy control. Many

Table 4: Distribution of Respondents by their opinion on whether Social and Economic Rehabilitation is a component of Leprosy Control in their Area.

Response	Frequency	Percent
Yes	282	25.5
No	729	66.0
Don't know	93	8.4
Total	1104	100

Source: Field Survey, 2010.

Table 5: Distribution of Respondents by their opinion on Rehabilitation Strategy adopted by Leprosy Control Programme

Response	Frequency	Percent
Institutional (colonies based)	670	60.7
Community based	262	23.7
All of the above	79	7.2
None of the above	93	8.4
Total	1104	100

Source: Field Survey, 2010.

of the respondents (68.4%) equally stated that there were no community based supportive activities aimed at rehabilitation of patients and stigma reduction. These responses reveal the lapses of the control programme in the two states in the area of SER of persons affected by leprosy. The high negative responses to SER variables were however not fully corroborated by IDI participants. More than half of the IDI participants, particularly health workers enumerated efforts at rehabilitation of patients but accepted that a lot still needs to be done. An IDI respondent from Anambra state reported thus- There is a Community Based Rehabilitation (CBR) Committee in Anambra state. The German Leprosy Relief Association (GLRA) pays about 12 persons affected by leprosy a monthly welfare support of N2000. Two (2) dependants are also currently benefiting from educational support from GLRA. The respondent also recounted that financial support (loan) to the tune of N10,000 for trading or farming was provided in the past but regretted that patients did not repay such loans to enable others to benefit.

On their part, male and female FGD participants at Mile 4 Hospital Abakaliki recounted promises made toward their social and economic rehabilitation. They however maintained that such promises are yet to materialize. Male and female FGD participants at Fr Damian TB and Leprosy Hospital, Nnewi/Amichi in Anambra state also decried the absence of SER programme for them. They maintained that they depend on donations of people of goodwill to subsist.

(d) Research Question 2: What are the perceived outcomes of social and economic rehabilitation of persons affected by leprosy in Anambra and Ebonyi states?

Data relevant to the research question are reflected in the bar chart (Figure 2) and Table 6 next page.

The chart above shows that most of the respondents (66.1%) assessed SER component of the leprosy control programme in Anambra and Ebonyi states as unsuccessful. This suggests high neglect of SER activities in leprosy control in the area. However, more respondents from Ebonyi state (88%) subscribed to the opinion that SER was unsuccessful as against 44.1% from Anambra state who shared similar views.

Table 6 below summarizes other findings on perception of outcome of SER activities. Again, the table shows high negative responses to five SER outcome variables examined. The situation points to the magnitude of unmet expectations of respondents in the area of social and economic rehabilitation of victims of leprosy.

The FGD results agree to a large extent with the above table over poor SER outcomes. The opinion of a female FGD participant at Fr Damian TB and Leprosy Hospital, Nnewi summarizes FGD data on SER outcome in both states is as follows -'We have not benefited anything except free drugs. Others are but promises. I look forward

to when I shall not be called all sorts of names and be truly accepted and seen as a human being in my community; when my ulcer and deformed fingers are disregarded and I could shop with money earned from my work and not from begging. I beg out of frustration. I dislike it'.

On their part, many IDI participants spoke of some limited level of success in SER activities. An IDI respondent from World Health Organization's (WHO) Zonal Office at Enugu clarified as follows- 'WHO has no direct SER programme for persons affected by leprosy. However, she (WHO) collaborates with partners to provide cash stipends, vocational training and prosthesis'. The respondent however noted that funding for SER is low, and that SER has not made much impact in leprosy control due to incomprehensive data base on patients' needs. Above all, the respondent lamented that many leprosy patients were already disadvantaged before starting treatment and SER cannot reverse their situation.

The negative perception of SER outcome cannot be totally divorced from impediments posed by limited funds and poor capacity of health workers. Late commencement of treatment and its associated lifelong disabilities (present even after completing treatment) cast further doubts about any serious plan for prevention of disabilities (POD). POD which is a key component of SER appears to be weak in the two states. In the context of weak POD, the public opinion is that nothing has improved as long as disabilities remain with patients. The situation is compounded by the absence of corrective surgery facilities for persons affected by leprosy at the leprosy clinics. The researcher also recognizes that weak rehabilitation plan may have contributed to the emergence of co-operatives involving persons affected by leprosy in their attempt to help themselves. More than two-thirds of the respondents (70.9%) acknowledged the existence of such co-operatives which serve as coping mechanisms to life challenges posed by leprosy.

(d) Research Question 3: How do people of Anambra and Ebonyi States of Southeast Nigeria perceive the level of funding for social and economic rehabilitation of persons affected by leprosy in their area in terms of its adequacy?

From Table 7 (page 31) it could be seen that there is no significant difference in the mode of assessment / perception of funding for leprosy control activities across the two states. Almost an equal number of respondents from both states saw funding for leprosy control as inadequate. This suggests that funding problem remains a common handicap to leprosy control in both states.

Discussion of findings

From the analysis of field data, it was observed that leprosy was considered a serious skin related health problem in the area studied. This is consistent with findings in a previous study by Nicholls (2000). The medical and social problems associated with leprosy have also been well documented by scholars (see Federal Ministry of Health, FMOH 1997;

Figure 2: Respondents Assessment of Social and Economic Rehabilitation (SER) Activities of Persons Affected by Leprosy in their Community

How would you assess social and economic rehabilitation activities of persons affected by leprosy in your community?

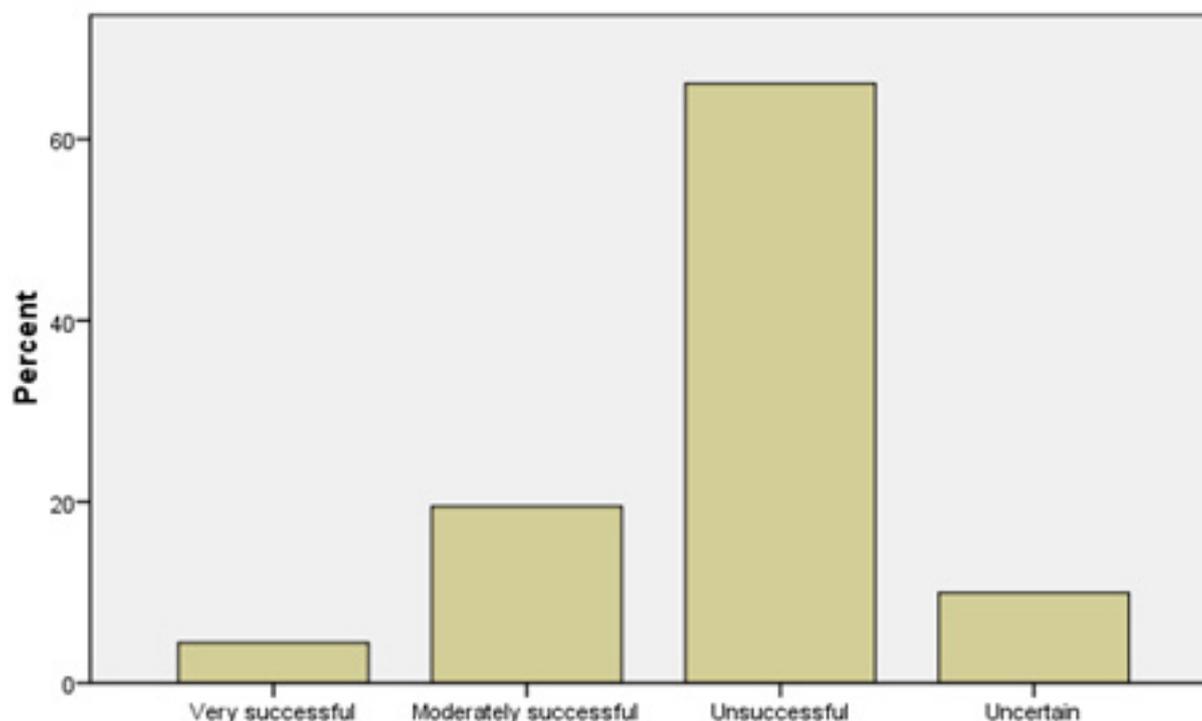


Table 6: Distribution of Respondents by their Assessment of Outcomes of SER Activities in Leprosy Control

SER Outcome Variable	Response	Frequency	%
Assessment of SER Activities	Very Successful	49	4.4%
	Moderately successful	215	19.5%
	Unsuccessful	730	66.1%
	Uncertain	110	10%
	Total	1104	100%
Any Improvement in Self-Sustenance and Economic Empowerment after Treatment	Yes	104	9.4%
	No	959	86.9%
	Don't know	41	3.7%
	Total	1104	100%
Acceptance of PAL by Family and Community during and after Treatment	Yes	103	9.3%
	No	980	88.8%
	Don't know	21	1.9%
	Total	1104	100%
Level of Effectiveness of Post-Treatment Integration Process of PAL	Very Effective	35	3.2%
	Effective	96	8.7%
	Ineffective	818	74.1%
	Very Ineffective	111	10.1%
	Uncertain	44	4.0%
	Total	1104	100%
Is Stigma of Leprosy Decreasing in your Community?	Yes	208	18.7%
	No	871	78.9%
	Uncertain	10	.9%
	Don't know	17	1.5%
	Total	1104	100%

Source:
Field Survey 2010.

Table 7: Distribution of Respondents according to State of Origin and their Assessment of Level of Funding for Leprosy Control Programme

State	Assessment of Level of Funding of Leprosy Control Programme				Total
	Very Adequate	Adequate	Inadequate	Don't know	
Anambra	20 (57.1%)	80 (53.7%)	424 (48.5%)	25 (55.6%)	549(49.7%)
Ebonyi	15 (42.9%)	69 (46.3%)	451 (51.5%)	20 (44.4%)	555(50.3%)
Total	35 (100%)	149 (100%)	875 (100%)	45 (100%)	1104(100%)

$\chi^2 = 2.883$, $df = 3$, $p = .410$

Sofola 1999, Ogbeiwu 2005, Rafferty 2005 etc).

The fact that there was very poor performance of social and economic rehabilitation (SER) component of leprosy control in the two states was a major finding. This area is certainly the weakest aspect of leprosy control in the two states. Most study participants responded negatively to the issue of availability of SER activities and to five SER outcome variables that were examined. Such poor performance of SER component is a departure from the submissions of both Smith (2000) and WHO (1999). They have held that SER should actually be a priority in leprosy control projects. The respondents in this study were of the opinion that vocational training, stigma reduction, economic empowerment and acceptance of PAL by community have all failed to materialize as envisaged. The finding of this study with respect to SER is also totally at variance with those of Nash (2001) who held that SER had attained significant levels of success in Nigeria or that patients had fitted into new economic roles that won them social acceptance and respect. The disconnect in findings between the present study and that of Nash (2001) could be explained by the time lag between the two studies and the fact that Nash focused on Northern Nigeria while the present study was located at the Southeast zone. Above all, institutional (colony based) rather than community based rehabilitation strategies were still being practiced with limited results. Factors accountable for the deplorable SER status-quo include belief systems, low public enlightenment, poor logistics, low knowledge, lack of funds, inadequate and non-enthusiastic health staff. There was also no strategy in place to ensure that rehabilitation takes on a multi-sectoral approach best suited for its operations. The situation was further compounded by the fact that the Social Welfare Department and other important agencies were, in the opinion of respondents, operating at a distance away from SER activities in leprosy control. The synergy and collaboration that ought to characterise their relationship was nonexistent. These observations on the state of rehabilitation of PAL in Anambra and Ebonyi states could be accountable for the conclusion drawn by Nigeria Television Authority (NTA, 2011) to the effect that rehabilitation of persons affected by leprosy is largely unaddressed in Nigeria.

The role of funding in leprosy control has been strongly emphasized by Anyam (2001) and Osakwe (2004).

This study affirmed their contentions but also revealed that most respondents actually saw the level of funding for leprosy control in Anambra and Ebonyi states, especially as applicable to SER, as inadequate. Many IDI respondents (health workers) reported poor budgetary allocation to leprosy control. Also, leprosy patients who were participants in the FGD sessions recounted severe financial difficulties which they experienced. These observations justify the position of the political economy framework that government often channel resources to maintenance of production to the neglect of core social goal of securing and improving health. A properly funded leprosy control programme will be responsive to both medical and economic needs of patients.

Conclusion and Recommendations

Based on the findings from the present study, the following recommendations can be made:

1. There is immense need to improve the level of community involvement, ownership and participation in the programme which is currently very low. The involvement of community leaders is a laudable step in this direction. In addition, the role of social groups like age-grades, women groups, clubs and faith-based associations will positively affect decisions toward ameliorating the effects of socio-cultural factors on leprosy control programme. With the support and participation of the community, socio-cultural practices and beliefs that negatively affect leprosy control should be abolished /prohibited.
2. There is need for a holistic leprosy control programme which should include crucial components like social and economic rehabilitation and reintegration of persons affected by leprosy into their communities. Such a holistic package will ensure that persons affected by leprosy are properly treated. It will also ensure that they are economically empowered and remained socio-politically relevant despite their disease experience.
3. Existing legislations should be enforced and new ones enacted to adequately protect persons affected by leprosy from all forms of stigmatization, discrimination, and violations of their fundamental human rights. Such measure of protection will encourage them to live normal lives devoid of social seclusion or withdrawal and to positively respond to their problem.

4. There is immense need for inter-agency collaboration to meet the goals of leprosy control. The programme should liaise with National Poverty Alleviation/ Eradication Programme and the Social Welfare Department etc to address issues of poverty, welfare and social integration as they affect leprosy patients. The Ministry of Education at the three tiers of government should also be involved with a view to including leprosy as a subject of study in the curricula of schools. This is sequel to the finding that formal education generally has positive impact on leprosy control.

5. Government at all levels should demonstrate strong political will and commitment toward leprosy control. This should be done through adequate funding, prompt release of budgeted sums, provision of infrastructure, logistics, training and motivation of leprosy control staff through prompt payment of entitlement and allowances.

6. There should also be a synergy between donor agencies, non-governmental organizations, development partners and government departments involved in leprosy control. All channels of energy leakage, wasteful duplication of functions and confrontations should be blocked.

7. Because of observed negative impact of socio-cultural factors like belief system on leprosy control, there is immense need to enhance the capacity of health workers to understand socio-cultural factors related to leprosy. This could be achieved through on the job training to equip them about behaviour change techniques. Furthermore, social scientists that are likely to better understand and plan interventions against such socio-cultural dimensions should be part of leprosy control teams in the spirit of inter-disciplinary co-operation and better results.

References

Adagba .K. (2011). Interview Granted to Nigerian Television Authority (NTA) to mark 50 years of Tackling Leprosy Problem in Nigeria, NTA Weekend File, 5th February.

Bryceson, A. & Pfaltzgraff, R.E. (1990). *Leprosy*. United Kingdom: Longman Group UK Limited.

Chukwu, J.N. (2004, April). Towards a Leprosy free Society: The Role of Tuberculosis and Leprosy Supervisors (TBLS). Being an Address Presented at the Quarterly Meeting of Anambra State Tuberculosis and Leprosy Supervisors Held at Local Government Hall, Amawbia, 5th - 7th.

Doyal, L. (1979). *The Political Economy of Health*. London: Pluto Press.

Durkheim, E. (1938). *The Rules of Sociological Method*. Glencoe: Free Press.

Eboh, W. (1999). *Leprosy Control in Nigeria: Past, Present and Future*, TBL Magazine and Photo Album. Zaria: Batch 21 TBLS Trainees.

Ekiti, P. (2010). Address to mark '2010 World Leprosy Day on theme - Justice: Fighting a just course' World Health Organization, Nigeria.

Erinosho, O.A. (2006). *Health Sociology*. Ijebu Ode: Bulwark Consult.

Ezekpeazu, J.I. (2000). *Leprosy: Causative Organism,*

Mode of Spread, Signs and Symptoms, Diagnosis, Differential Diagnosis, Classification and Treatment. Paper Presented at World Leprosy Day Conference Held at Madonna University, Okija, 9th - 11th Feb.

Federal Ministry of Health, Department of Primary Health Care (1997). *National Tuberculosis and Leprosy Control Programme (NTBLCP), Workers' Manual, 2nd Edition*.

Federal Ministry of Health, Department of Public Health (2004). *National Tuberculosis and Leprosy Control Programme (NTBLCP) Workers' Manual, 4th Edition*.

Grand, A.L. (1997). *Women and Leprosy: A Review*. *Leprosy Review*, 68, 203 - 211.

Hahn, R.A. (1999). *Anthropology in Public Health*: New York: Oxford University Press.

Haralambos, M., Holborn, M. & Heald, R. (2004). *Sociology: Themes and Perspectives*. London: Harper Collins Publishers.

<http://en.wikipedia.org/wiki/phenomenologicalsociology> Retrieved 15th May, 2009.

Ifemesia, C. (1979). *Traditional Humane Living among the Igbo: An Historical Perspective*. Enugu: Fourth Dimension Pub. Co. Ltd.

Kaufmaun, A., Neville, J. & Mariam, S.G. (1993). *The Social Dimension of Leprosy*. London: TALMILEP

Kaur, H., & Ramesh, V. (1994). *Social Problems of Women Leprosy Patients: A Study at Two Urban Leprosy Centres in Delhi*. *Leprosy Review*, 65, 361 - 375.

Khulmann, E. (2009). From Women's Health to Gender Mainstreaming and Back Again: Linking Feminist Agencies and New Governance in Healthcare. *Current Sociology*, 57(2), Monograph 1, 135 - 154.

Lemert, E.M. (1951). *Social Pathology*. New York: McGraw Hill Book Co.

Lockwood, D. (2000). Consequences of Leprosy and Socio-Economic Rehabilitation. *Leprosy Review*, 71(4), 417 - 419.

Macaden, V.P. (1996). An Introduction to Community Based Rehabilitation in Leprosy. *Partners Magazine for Paramedical Workers*. 1 (30), 3 - 5.

Mgbenwelu, L. (1999). An Opening Address on the Occasion of the Training of Health Workers on Leprosy Care at Ihiala Local Government, 15th October.

Naidoo, J., & Wills, J., (2001). *Health Studies: An Introduction*. New York: Palgrave Publishers.

Nash, J. (2001). What is Rehabilitation. *Partners Magazine for Paramedical Workers in Leprosy*, 1 (38), 3-7

National Population Commission (2006). *2006 Population and Housing Census of the Federal Republic of Nigeria*. National and State

Population and Housing Tables (Priority Tables Vol.1)

Navara, V. (1979). *Medicine under Capitalism*. London: Crown Helm.

Nicholls, P.G. (2000). Guidelines for Social and Economic Rehabilitation. *Leprosy Review*, 71, 422 - 465.

Nigeria Television Authority (2011). 50 years of Tackling Leprosy Problem in Nigeria, NTA Weekend File' 5th Feb.

Nwala, T.U. (1985). *Igbo Philosophy*. Lagos: Literame Publishers Ltd.

Nwankwo, I.U (2010). Alienation and Suicidal Tendencies among Leprosy Patients Anambra State. *Practicum Psychologia*, 2(2), 40-48.

- Nwankwo, S.N. (2006). Compliance Status of Multiple Drug Therapy (MDT) By Leprosy Patients in Imo State from 2000-2004. Unpublished Postgraduate Diploma Thesis, Imo State University, Nigeria.
- Nwosu, H.N. (2002). Politics and Administration of Igbo Traditional Society. In Ofomata, G.E.K. (Ed.). Survey of the Igbo Nation. Onitsha: Africana First Publishers Ltd.
- Ogbeiwi, O.I. (2005). Progress towards the Elimination of Leprosy in Nigeria: A Review of the Role of Policy Implementation and Operational Factors. *Leprosy Review*, 76(1), 65 - 76.
- Ogoegbulem, S.A. (2000, February). Forging New Partnerships for Effective Leprosy Control. Paper Presented at a Three Day National Workshop to Commemorate World Leprosy Day, Held at Madonna University Okija, 9th - 11th .
- Olisa, M.S.O. (2002). Igbo Traditional Socio-Political System. In Ofomata, G.E.K. (Ed). A Survey of the Igbo Nation. Onitsha. Africana First Publishers Ltd.
- Onokala, P.C. (2002). Trade and Transport. In Ofomata, G.E.K(ed). A Survey of the Igbo Nation. Onitsha: Africana First Publishers Ltd.
- Osakwe, C. (2004, April). Pre-requisites for an Effective Tuberculosis and Leprosy Control Programme. An Address Presented at the Quarterly Meeting of Anambra State Tuberculosis and Leprosy Supervisors Held at Local Government Hall, Amawbia. 5th - 7th.
- Pearson, J.M.H (1988). Essentials of Leprosy. India: German Leprosy Association and TALMILEP.
- Rafferty, J. (2005). Curing the Stigma of Leprosy. *Leprosy Review*, 76(2), 119 - 126.
- Rao, .S., Garole, .V. & Walawalker, .S. (1996). Gender Differentials in the Social Impact of Leprosy. *Leprosy Review*, 67, 190-199.
- Ridley, D.S., & Jopling, W.H., (1966). Classification of Leprosy According to Immunity. *International Journal of Leprosy*, 34, 255 - 273.
- Robinson, .I. (1990). Personal Narratives, Social Careers and Medical Courses. *Social Science and Medicine*, 1173 - 1186.
- Schaefer, R.T., & Lamm, R.P. (1997). *Sociology: A Brief Introduction*. USA: The Mc Graw-Hill Companies Inc.
- Scott, J. (2000). The Psychosocial Needs of Leprosy Patients. *Leprosy Review*, 71(4), 486 - 491.
- Shlomo, A. (1968). *Socio-Political Thought of Karl Marx*. London: Cambridge University Press.
- Srivinasan, H. (1999). The Problem and Challenge of Disability and Rehabilitation in Leprosy. Article retrieved April 20, 2009 from [http://www.cefpas.it/leprosy/disabilities/Doc Rehabilitation.htm](http://www.cefpas.it/leprosy/disabilities/Doc%20Rehabilitation.htm)
- Smith, C. (2000). Leprosy after the Year 2000. *Partners Magazine for Paramedical Workers*, 1(37), 3-6.
- Sofola, O. (1999). Leprosy Elimination Campaigns: The Nigerian Experience. *Leprosy Review*, 70, 465 - 471.
- Turner, J.H. (1978). *The Structure of Sociological Theory*. Homewood Illinois: The Dorsey Press.
- Uzozie, L.C. (2002). Igbo Concepts and Beliefs about Land. Its Classification and Tenurial System. In Ofomata, G.E.K.(Ed.). A Survey of the Igbo Nation. Onitsha: Africana First Publishers Ltd.
- Valsa, A. (1999). Psychological Aspects in Leprosy. *Partners Magazine for Paramedical Workers in Leprosy*, 2(36), 14 - 16.
- Valencia, L.B. (1989). Social Science Research on Social Dimensions of Leprosy: Where are we going from here? *International Journal of Leprosy*, 57, 847 - 863.
- Warndorff, D.K. & Warndorff, J.A. (1990). Leprosy Control in Zimbabwe. From a Vertical to a Horizontal Programme. *Leprosy Review*, 61, 183 - 187.
- World Health Organization. (1982). *Chemotherapy of Leprosy for Control Programmes*. World Health Organization Technical Report Series, 675. Geneva: World Health Organization.
- World Health Organization. (1985). *Epidemiology of Leprosy in Relation to Control*. World Health Organization Technical Report Series, 716. Geneva: WHO.
- World Health Organization. (1988). *A Guide to Leprosy Control (2nd Ed.)*. Geneva: World Health Organization.
- World Health Organization. (1999). *Elimination of Leprosy Status Report (Draft)*. Geneva: World Health Organization.
- World Health Organization.(2000). *Guide to Eliminate Leprosy as a Public Health Problem (1st Ed.)*. Geneva: World Health Organization.
- World Health Organization. (2002). *Integrating Gender Perspectives in the Work of WHO*. Geneva: World Health Organization.
- World Health Organization. (2008). *Weekly Epidemiological Record*, 33, 293 - 300. Retrieved 15th December, 2008 from <http://www.who.int/wer>
- World Health Organization. (2010). *New Case Detection and Prevalence, 2005 - 2008 for South-east Zone of Nigeria*. WHO South-east Zonal Office Enugu.
- Yawalker, S. J. (1994). *Leprosy for Practioners (5th ed.)*. Bombai: Popular Prakashan.

Passive Smoking and Pregnancy Outcome

Tarek Athamneh (1)

Sultan Qudah (1)

Mahmoud Mashaqbeh (1)

Sumaya Ali Njadat (2)

Mohammed Khderat (3)

(1) Specialist, Department of Obstetrics and Gynecology
Royal Medical Services, Jordan

(2) B.Sc, Department of Pharmacy, Royal Medical Services, Jordan

(3) Specialist, Department of Medicine, Royal Medical Services, Jordan

Correspondence:

Sultan Qudah

Specialist, Department of Obstetrics and Gynecology
Royal Medical Services, Jordan

Email: sultanqudah@yahoo.com

Abstract

Objective: To evaluate the association between passive smoking and adverse reproductive effects or pregnancy outcomes among Jordanian pregnant women.

Material and Methods: This was a retrospective study which was conducted at Prince Rashid Ben Alhasan hospital between 2011 and 2013. Total samples of 4125 newborns were included in the study. The demographic characteristics of these newborns included: gestational age, gender, birth weight, congenital anomaly, mode of delivery and admission to NICU. Maternal characteristics of Jordanian women according to passive smoking included: age, parity, weight, and income.

Results: Pregnancy outcome for Jordanian women according to passive smoking status indicated that passive smoking is related with stillbirth with an incidence of 1.0%, low birth weight in 11.9%, pre-term delivery in 12.5%, congenital anomaly in 1.6%, caesarean delivery in 23.7% and need for admission in NICU in 35.4%. The result indicated that exposure to passive smoking during pregnancy had adverse effects on low birth weight, admission to NICU, and need for antibiotic significantly, p-value <.0005.

Conclusion: Exposure to passive smoking during pregnancy had adverse effects on pregnancy outcome. Adverse reproductive effects are serious and costly health problems that have a huge impact on morbidity and mortality rate in all societies.

Key words: passive smoking, pregnancy, pregnancy outcome.

Introduction

Cigarette smoking either as active or passive smoking is a major public health concern and considered as the greatest preventable cause of illness and premature death in our society (1). Worldwide, it is estimated that the number of women who are smokers will be trebled over the next generation (2). In developed countries such as the United States, the prevalence of cigarette smoking among pregnant women declined from 25 % in 1980 to reach 12 % in 2000, while the reverse is occurring in developing countries(3). Unfortunately, lack of studies were found in Jordan to investigate cigarette smoking behaviors during pregnancy.

Indeed, there is growing and greater evidence surrounding potential adverse reproductive health effects and pregnancy outcomes resulting from exposure to either passive or active smoking(4). However a lot of studies demonstrated the adverse effect of active cigarette smoking on pregnancy outcome including low birth weight, pre-term birth, still birth, spontaneous abortion and fetal growth restriction(5,6,7,8) at the same time few studies have found an association between active smoking and congenital malformation(9). In fact, a few studies investigated the associations between passive smoking and adverse reproductive effects or pregnancy outcomes. Passive smoking is identified either as main stream or side stream. Main stream smoking is defined as tobacco smoke generated during puff-drawing in the burning cone of a tobacco product, which then travels through the unburnt tobacco and is inhaled directly by the smoker(10); while side stream smoking is defined as a combination of smoke emitted into the air during the burning of a tobacco product between puffs, smoke escaping into the surrounding air during puffs and smoke components that diffuse through cigarette paper (10).

The majority of passive smoking is in the form of side stream smoking generated from the burning end of a lighted cigarette, whereas the remainder is composed of main stream smoking exhaled by individuals actively smoking.

In all, women who have exposure to cigarette smoking were posed a greater danger not only to their own reproductive health, but also to their unborn child if they are exposed during pregnancy. However, cigarette smoke constituents, including mutagenic, neurotoxic, and fetotoxic agents can pass through the placenta and are detected in the urine of newborns (11).

Indeed, adverse reproductive effects are serious and costly health problems that have huge impact on morbidity and mortality rate in all societies. However, few recent studies have investigated the association between passive smoking and adverse reproductive effects or pregnancy outcomes. Globally, little is known about the associations between passive smoking and reproductive effects or pregnancy outcomes. In Jordan lack of studies have investigated this health problem too, so the purpose of this study is to evaluate the association between passive

smoking and adverse reproductive effects or pregnancy outcomes among Jordanian pregnant women.

Materials and Methods

This was a retrospective study which was conducted at Prince Rashid Ben Alhasan hospital between 2011 and 2013. Total samples of 4125 newborns were included in the study with the majority aged between 21- 29 weeks; newborn were categorized to five age groups which ranged from less than 20 weeks to more than 40 weeks.

The demographic characteristics of these newborns included: gestational age, gender, birth weight, congenital anomaly, mode of delivery and admission to NICU. Maternal characteristics of Jordanian women according to passive smoking included: age, parity, Body Mass Index, resident area, income, occupation, and education as shown in Table 1 (page 36).

Results

Analysis of the distribution of participants according to gender revealed that male newborns represented 49.6% of the participants, while female newborns represented 50.4%. Pregnancy outcome for Jordanian women according to passive smoking status indicated that passive smoking is related with stillbirth with an incidence of 1.0%, low birth weight in 11.9%, pre-term delivery in 12.5%, congenital anomaly in 1.6%, caesarean delivery in 23.7% and need for admission in NICU in 35.4%.

Pregnancy and outcome for Jordanian women according to passive smoking status indicated that passive smoking is related with Still birth, Low birth weight, Pre-term delivery, Need of an infant for treatment by antibiotic, Need for admission in NICU, and Caesarean significantly as shown in Table 2 (page 37).

Adjusted for age, weight, height, job, residency, education, mother blood group, gravidity, parity, history of abortion, history of chronic pain, family history of low birth weight, history of prematurity, onset of antenatal visit, plan for pregnancy, happiness, drug pregnancy, use of medication during pregnancy, gum bleeding during pregnancy, coffee drinking, urinary tract infection, inter pregnancy interval, and gender, the result indicated that exposure to passive smoking during pregnancy had adverse effects on low birth weight, admission to NICU, and need antibiotic significantly p- value <.0005 as shown in Table 3 (page 37).

Discussion

Cigarette smoking contains more than 2.500 chemicals; these chemicals are harmful to the developing baby(12). Both nicotine and carbon monoxide are believed to play a role in causing adverse pregnancy outcomes. Most recent studies reported that carbon monoxide and dioxide decrease availability of oxygen which are the primary substance responsible for fetal adverse effect(13).

Table 1: Socio-demographic and maternal characteristics of Jordanian women according to passive smoking status

Variable	Passive Yes/n%	Smoking No/n%	P-value
Age (year):			
<=20	487(11.8)	336 (7.7)	
21-29	2444 (59.2)	2523 (57.8)	
30-34	623 (15.1)	904 (20.7)	
35-39	354 (8.6)	430 (9.9)	< 0.0005
>=40	217(5.3)	172(3.9)	
Body Mass Index:			
Normal	1142(27.8)	1015(23.3)	
Underweight	54(1.3)	33 (0.3)	
Overweight	1782(43.4)	2296 (52.6)	
Obese	1132(27.5)	1021 (23.4)	< 0.0005
Income (JD):			
<200	2348 (56.9)	1690 (38.7)	< 0.0005
>=200	1777 (43.1)	2675(61.3)	
Occupation:			
Employed	599 (14.5)	688 (15.8)	0.111
Unemployed	3526 (85.5)	3677 (84.2)	
Resident area:			
Urban	2283(55.3)	2499(57.3)	0.077
Rural	11842(44.7)	1866 (42.7)	
Education:			
< high school	11292(31.3)	1399(32.1)	< 0.0005
High school	1445(35.0)	946(21.7)	
>high school	1388(33.6)	2020 (46.3)	
Gravidity :			
1	1520(36.8)	1337(30.6)	< 0.0005
2or3	1242(30.1)	1357(31.1)	
4	1363(33.1)	1671 (38.3)	
Parity:			
0	1223(29.6)	1159(26.6)	<0.0005
1 or 2	1595(38.7)	1474(33.8)	
>2	1307(31.7)	1732(39.7)	

However, exposure to cigarette smoking during pregnancy via active or passive routes is believed to be a strong risk factor for pre-term birth and low birth weight. There is growing concern surrounding potential adverse reproductive health effects and pregnancy outcomes resulting from passive smoking (14). Passive smoking for pregnant women can possess significant health risks to the mother, infant, and it is associated with numerous avoidable health risks to infant such as risk for low birth weight is doubled, small for gestational age, and prenatal death.

Indeed, a recent study conducted in Canada examined the adverse effects of cigarette smoking among 225 women

undergoing IVF in Canadian reproductive clinic between 2003 and 2004. The finding showed significant lower implantation rates and pregnancy rates were found among both active and passive smokers compared with non-smokers. However, passive smoking among the women in the study was measured only by the self-reported(14).

Furthermore, a study conducted by Meeker and colleagues (2006), used multivariate design for 921 women undergoing assisted reproductive technologies to assess relationship between maternal exposure to second hand tobacco smoke and adverse pregnancy outcomes. The result indicated that the infant in utero of female exposure

Table 2: Pregnancy and outcome for Jordanian women according to passive smoking status

Outcome	Passive smoking Yes/n(%)	Passive Smoking No/n(%)	P-value
Gender of the infant :			
Male	2045(49.6)	2180(52.8)	0.002
Female	2080(50.4)	1945 (47.2)	
Still birth	41(1.0)	71(1.7)	0.015
Any congenital anomaly	67(1.6)	75(1.8)	0.306
Caesarean delivery	979(23.7)	1102(26.7)	0.105
Normal delivery	3146(76.3)	3263 (79.1)	
Need for admission in NICU:	1460(35.4)	231(5.6)	0.000
Need of an infant for treatment by antibiotic:	198(4.8)	59(1.4)	0.000
Underwent surgical Intervention:	0(0)	18(0.4)	0.000
Pre-term delivery	514(12.5)	462(11.2)	0.000
Low birth weight delivery	478(11.9)	315(7.6)	0.000

Table 3: Multivariate analysis of the difference in adverse pregnancy outcome between passive smokers and non smoker

Outcome	Odd ratio (95% CI)	P-value
Pre-term delivery	1.35(0.98,1.87)	0.067
Low birth weight delivery	1.97(1.56,4.49)	< 0.0005
Admission to NICU	2.30(1.75,3.03)	< 0.0005
Need antibiotic	3(0.3,10.04)	< 0.0005

to second hand tobacco smoke may increase risk for spontaneous abortion(15).

In Asia, one recent study examined the association between maternal smoking and pregnancy loss among 526 non-smoking Chinese females. However, the result indicated increased odds of early pregnancy loss among women with husbands who smoked more than 20 cigarettes per day(16). This study emphasized on the result obtained by another study conducted in California among 3000

pregnant women with exposure to second hand tobacco smoke. However, the finding showed an increased risk of spontaneous abortion among mothers who were exposed to tobacco smoke for one hour or more per day(17).

Another adverse effect of passive cigarette smoking was reported by Hunke and their colleagues in (1999); they conducted a study to evaluate the effect of environmental tobacco smoke on the risk of pre-term delivery and small for gestational age in central Poland with a randomly

selected population of 1751 women who gave birth between June 1996 and May 1997 and based on a structured interview. The result showed that 95 of the passive smoking women delivered before 37 weeks of pregnancy and 111 passive smoking mothers delivered babies with birth weight below the 10 % of the standard curves for central Poland(18).

The questions that emerged in the previous studies is whether these associations differ by maternal age. However, Ahluwalia et al. (1999) examined the association between exposure to environmental tobacco smoke during pregnancy and birth weight, prematurely and small for gestational age and to determine whether these associations differed by maternal age. They found that the mean adjusted birth weight among infants of non-smoking mothers age 30 years or older was 90 gm less than infants not exposed; similarly, were the risk of low birth weight (odds ratio = 2.42, 95% confidence interval 1.51-3.87) and pre-term -delivery (odds ratio = 1.88, 95% confidence interval 1.22-2.88). These finding indicated that the association between environmental tobacco smoke exposure and adverse pregnancy outcomes appears to be modified by maternal age(19).

On the other hand, a study was conducted among mothers at delivery and neonates in Incheon, which included 81 mothers exposed to tobacco smoke, to examine the association between environmental pollutants with smoking and utero developmental damage. The result indicated that oxidative damage in newborns is affected by mothers exposure to environmental tobacco smoke, and the findings strongly show the need for smoking cessation among household members during pregnancy(20).

One random sample study found in our literature used a cross-sectional design in stratified random sample study, in the city of Espoo in 1991. The researcher examined pregnancy outcomes among nonsmoking pregnant women exposed to environmental tobacco. The result indicated there was a trend of risk of low birth weight and pre-term delivery related to maternal exposure to environmental tobacco smoke(21).

References

- 1- Ministry of Health (MOH). Annual statistical report Jordan, [Online] [Accessed 2006 November]. Available from URL www.moh.gov.jo. Last accessed 1 November 2006.
- 2- Surgeon general report, women and smoking. (2001). Retrieved from: <http://www.cdc.gov/tobacco/sgr>.
- 3- Canttingius S. (2004). The epidemiology of smoking during pregnancy: smoking prevalence, maternal characteristics, and pregnancy outcomes, nicotine and tobacco research; 6 : (2):125-140.
- 4- Wu T. et al (2007). Passive smoking, metabolic gene polymorphisms, and infant birth weight in prospective cohort study of Chinese, American journal of epidemiology, 166: (3),313-327.
- 5- Mathews Y. (2001). Smoking during pregnancy in the 1990s. Natl Vital Stat Rep. 49:1-14.
- 6- Kelly Y. et al. (1995). Maternal asthma, premature birth and the risk of respiratory morbidity in schoolchildren in Merseyside. Thorax: 50:525-530.
- 7- Hogberg L. & Canttingius S. (2007). The influence of maternal' smoking habit on the risk of subsequence of still birth, is there a causal relation? BJOB: 114:699-704.
- 8- Ohmi H, Hiiok K, & Mookizuki J. (2002). Fetal and the timing of exposure to maternal smoking. Pediatric Int; 44:55-59.
- 9- Deplisheh A. et al, (2007). Population attributable risk for adverse pregnancy outcomes related to smoking in adolescent and adults. Public health; doi: IC 10-T016.
- 10- Jaakkola N. (2002). Passive smoking during pregnancy and early childhood occurrence, determinants, health effect and prevention, department of public health university of Helsinki.
- 11- Kalinka JL (1999). Passive smoking and pregnancy outcome in central Poland, human and experimental toxicology, 18: (4), 265-271.
- 12- Pletsch P. & Morqn S. (2002). Smoke free families: A tobacco control program for pregnant women. JOGIN; 31 : (1): 39-46.
- 13- Anderson M, Johnson D, & Batal H. (2005). Sudden infant Death Syndrome and prenatal maternal smoking: BMC Medicine 3:4doi:10. 1186/1741-7015-3.
- 14- Pirkle J, Bernert J, Caudill S, Sosnoff C, & Pechacek T (2006). Trends in the exposure of nonsmokers in the U.S. population to second hand smoke: 1988-2002. Environ Health Perspect; 114:853-858.
- 15- Meeker J, Misser S, Cramer D, & Hauser J, (2006). Maternal exposure to second and tobacco smoke and pregnancy outcome among couple undergoing assisted reproduction, human reproductive, 22: (2) 337-345.
- 16- Venners S, Wang X, Chen C, Wang L, Chen D, & Guang W et al. (2004). Paternal smoking and pregnancy loss: a prospective study using a biomarker of pregnancy. Am J Epidemiol;159:993-100t.
- 17- Windham G, Swan S, Fenster L (1992). Parental cigarette smoking and the risk of spontaneous abortion. Am Epidemiol; 135:1394-1403.
- 18- Hanke W., KaBinka J., Florek E., & Sobala W. (1999). Passive smoking and pregnancy outcome in central Poland. Department of Environmental and Occupational Epidemiology :4: 265-271.
- 19- Ahluwalia B., Grummer L., & Scanlon K., (1997). Exposure to environmental tobacco smoke and birth outcome: increased effects on pregnant women aged 30 years or older, American journal of epidemiology, 146,42-47.
- 20- Hong Y et al, (2001). Maternal genetic effect on neonatal susceptibility to oxidative damage from environmental tobacco smoke, journal of the national cancer institute; 93: (8): 45- 47.
- 21- Wilcox A (2001). The importance and unimportance of birth weight. In J Epidemiol. 30:1233-41.

How to critically appraise a scientific paper: Introducing a careful planning scheme

Mohsen Rezaeian

Correspondence:

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

Abstract

Appraisal of a scientific paper in your area of expertise or interest requires some skills and careful planning to make the most efficient use of your time. The most important skills you need are critical appraisal skills. A careful planning scheme for appraisal of a scientific paper however, largely depends on the reasons for reading i.e. to keep yourself up-to-date, to carry out a literature review in order to write a research proposal, or to conduct a journal club, etc.

Nonetheless, a careful comprehensive planning scheme should at the very least encompass some general steps and the aim of the present article is to provide the details of such general steps.

Key words: Scientific paper, careful planning for reading

Introduction

Efficient reading of a scientific paper in your area of expertise or interest requires some skills and careful planning. Otherwise, you might not get the most from your reading. The most important skills you need are critical appraisal skills which help you to identify the pros and cons of a published article. Careful planning also implies that you should divide your devoted time for reading into different related steps which make it possible to efficiently use your skills. In what follows I will try to provide you with the details of such careful planning.

Introducing a careful planning scheme

A careful planning scheme for reading a scientific paper largely depends on your style of reading and learning and the reasons for reading i.e. to keep yourself up-to-date, to carry out a literature review in order to write a research proposal, to conduct a journal club, etc. However, it should at the very least encompass the following steps:

1. As soon as you find your paper read its title and abstract. Take a look at the main parts of the article, especially its methods and results. Look at the tables and figures, if any exist, and read its conclusion. In addition, take a look at its references to find out if there are any references which you have already read.
2. By taking the previous step you are now in a position to decide whether to stop reading it further or put it aside for a while or continue reading. If the article is not relevant to your area of expertise and/or interest you should discard it. However, if the article is relevant to your area of expertise and/or interest but it is difficult to understand you should do some background reading on the topic by carrying out an appropriate literature review.
3. If the article is relevant to your area of expertise and/or interest and easy to understand then you should continue reading it. At this stage you should read the article in detail and thoroughly from its title towards its references. At this round of reading you should get the grip of the four main parts of your article i.e. Introduction, Methods, Results and Discussion and should comprehend the most important messages of the article.
4. Underline the most important bits as you go through. If there is jargon that is still unfamiliar do more background reading or look up a dictionary. It should be noted that a very useful source of background reading of an article would be the list of its references provided the author(s) did not miss some relevant works.

5. By accomplishing the previous steps you should now understand the main messages of the article. However, that is not enough since there is one more final step that you should take it and that is to critically appraise the article.

6. In the final step you should go through the article once more. The fundamental aim of this step is to find out the pros and cons of the article. Therefore in this round of reading you should read it more meticulously. Focus on your previously highlighted lines and also focus more on the Method section of the article. Always consider the Method section of an article as its heart.

While reading you might also ask yourself whether each part of the article could be written in a better way? For example:

- Could the author(s) write a more appropriate title?
- Could the author(s) write a better abstract?
- Did the author(s) correctly justify and articulate their aims?
- Are the methods correctly selected and specified in detail?
- Could the author(s) present their results in a better way?
- Did the authors fulfill all their specified aims?
- Did the authors somewhere in their discussion refer to their limitations?
- Are there any relevant references that have been missed by the author(s)?

Further Reading

Rezaeian M. How to teach medical students to critically appraise a published article in public health domain: An innovative approach reporting from Rafsanjan Medical School. *J Educ Health Promot.* 2013; 2:8.

Rezaeian, M. How to critically review a scientific, medical or business paper. *Middle East J Business.* 2011; 6(4):13-15.

Durbin CG Jr. How to read a scientific research paper. *Respir Care.* 2009; 54(10):1366-71.

Al-Ateeg FA. Reading medical articles critically. What they do not teach you in medical school. *Saudi Med J.* 2004; 25(4):409-23.

Lozano JM1, Ruiz JG. Reading a journal article. *Indian J Pediatr.* 2000 Jan;67(1):55-62.

Continuing Professional Development

Presenting case 1

Ernest Mbotto, aged 66, farmer.

Problem: Persistent dull low lumbar back pain for ten weeks, worse at night and steadily becoming more intense.

History of injury:	No	
Site and Radiation:	Central lower lumbo-sacral, radiation into both buttocks when severe.	
Type of Pain:	Boring deep ache, unrelenting and continuous	
Onset:	Insidious	
Aggravation:	Movement and activities such as lifting and gardening.	
Relief:	None apart from analgesia.	
Associated Features:	Malaise, fatigue, muscular weakness, recent weight loss 2kg	
Urinary symptoms:	Increasing frequency, difficulty starting and stopping micturition.	
Physical examination		
Inspection:	Gait and movement: Limited with protective movements.	
Posture:	Flattened lumbar lordosis.	
Palpation:	Mild tenderness to deep palpation over L4 and L5.	
Movement:	All movements (flexion, extension and lateral flexion), restricted and protective.	
General:	Patient appears unwell. No neurological abnormalities. Examination of chest, CVS, abdomen and urine normal.	

Question 1:

What is your provisional diagnosis?

Question 2

What investigations would you arrange to conform the diagnosis?

Question 3

What is your management plan? (All answers are on the next page)

Answer 1

The provisional diagnosis is spinal metastases from carcinoma of the prostate. The history is typical of metastatic disease with unremitting pain present day and night. Reduction in all movements is also a characteristic. A rectal examination to assess the nature of the prostate would be important. It was very hard and irregular in this patient.

Answer 2

Appropriate investigations would include:

- prostate specific antigen (the key tumour marker)
- plain X-ray of the lumbo-sacral spine (this should show sclerotic metastases).

If the plain X-ray did not show evidence of metastases a bone scan would be appropriate.

**Answer 3**

Feedback

Management would be referral to a urologist for assessment and management. This would consist of prostatic surgery to relieve obstruction and manipulation of the hormonal 'environment' to achieve regression of the malignancy.

Key Point

The critical clue in this case is the associated urinary symptoms in a man of appropriate age for carcinoma of the prostate.

Continuing Professional Development

Presenting case 2

Ahmed Sharif, aged 67, retired policeman.

Problem: Pain in left leg for four months.

History of injury:	No, but long history of backache.
Site and Radiation:	Lower back pain (LBP), left buttock, thigh radiating to calf. Starts in buttock and radiates distally.
Type of Pain:	Deep burning and numbing
Onset:	After walking especially up hill, lying with back arched
Aggravation:	After walking especially up hill, lying with back arched
Relief:	Lying down, flexing spine e.g. squatting.
Associated Features:	Nil
Physical examination	
Inspection:	Patient tends to bend forward on walking.
Palpation:	Tender over L5
Movement:	Restricted flexion, extension (especially).
General:	Neurological examination normal.



Question 1:

What is your provisional diagnosis?

Question 2

What investigations would you arrange to conform the diagnosis?

Question 3

What is your management plan? (All answers are on the next page)

Answer 1

This patient has neurogenic claudication in which buttock pain and leg pain with weakness are initiated by prolonged standing or walking. The symptoms of neurogenic claudication have to be differentiated from the symptoms of vascular claudication due to obstructive arterial disease. The differences are outlined in the Table below.

Clinical features of neurogenic and vascular claudication

Claudication:	Neurogenic claudication	Vascular
Cause:	Spinal canal stenosis	Aorto-iliac arterial occlusive disease
Age:	Over 50	Over 50
Pain site and Radiation:	Proximal location, initially lumbar, buttocks and legs. Radiates distally	Distal location. Buttocks, thighs and calves (especially). Radiates distally
Type of pain:	Weakness, burning, numbing or tingling (not cramping)	Cramping, aching, squeezing
Onset:	Walking (uphill & downhill). Distance walked varies. Prolonged standing. Lying with back arched.	Walking a set distance each time, especially uphill
Relief:	Lying down. Flexing spine - e.g. squat position May take 20-30 minutes to settle	Standing still - fast relief. Slow walking decreases severity
Associations:	Bowel and bladder symptoms	Impotence. Rarely, paraesthesiae or weakness
Peripheral pulses:	Present (if no associated PVD). Reduced or absent in some, especially after exercise	Present (usually)
Lumbar extension:	Aggravates	No change
Neurological:	Saddle distribution. Ankle jerk may be reduced after exercise	Note: abdominal bruits after exercise
Diagnosis confirmation:	Radiological studies	Arteriography

Answer 2

The problem is confirmed by radiological investigation which usually shows degenerative changes in the lumbar spine with foraminal stenosis, often at several levels

Answer 3

This patient requires surgical decompression by laminectomy at the affected level of the spine. Surgery gives excellent results.