Students' Corner
KAP

Health related quality of life in pregnant women: A comparison between urban and rural populations

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Abstract

Objective: To study mental and physical health of pregnant women and compare the differences between those residing in urban and rural settings.

Methods: A Cross-Sectional Survey was conducted on pregnant women (n=179) in urban and rural areas of Islamabad in January 2009. SF-12, a validated instrument for mental and physical health assessment was used and translated into Urdu. Responses were decoded as per SF-12 analysis protocol. Independent sample t-test was done to compare the quantitative variables. The level of statistical significance was $p<0.05$. The survey was filled either by the participant or the research team and was anonymous. All the researchers were trained in the interview technique in order to make sure that each question carried the same meaning during the actual survey. This was done to standardize the survey methodology.

Results: A total of 179 survey forms were collected, 83 and 96 from both rural and urban areas respectively. Role Limitations because of Physical Problems ($p=0.020$), General Health Perceptions ($p=0.001$) and Role Limitations because of Emotional Problems ($p=0.023$) had statistically significantly lower scores in rural women as compared to urban women.

Conclusion: Self-perceived mental and physical health was better in urban pregnant women than in rural women.

Keywords: Mental health, Pregnant women, Physical health (JPMA 61:308; 2011).

Introduction

There is no clear definition of 'Quality of Life'. It is a term that is often interchangeable with a person's well being, and is dependent upon a number of socio-economic factors that include but are not limited to one's standard of living, income, and access to facilities and resources that would be beneficial to their well being. It is however, generally accepted that the self perceived health is a major contribution to the overall quality of life.[1] It can even be argued under the light of evidence that perhaps all other variables such as socio-economic status value a lot less than this personal view of health It seems that the factors important for present QOL and health are derived from good relations, with the close as well as the distant world, and overall view of life. What one possesses in objective terms - money, status, work - does not seem to be important to global quality of life and of little importance to self-assessed health.[1] Quality of life can be examined from many different perspectives and easily compared by focusing on a certain category. The focus in this study was on the self-perceived Health Related Quality of Life.

Pregnancy is a crucial period for a woman because it poses risk not only to her but also to her unborn child. The risk of any complications and danger to mother and child can drastically be reduced by utilization of antenatal facilities available and other resources designed to educate women about the importance of their health at this crucial juncture in their lives such as Media, pamphlet or antenatal classes. According to a study by Alam Yawar et al 2005, lesser prevalence of Anaemia and better tetanus toxoid coverage was seen among women attending antenatal care facilities. Identification of danger signals in pregnancy and recognition of nutritional demands of pregnancy are better understood by women utilizing antenatal care facilities.[2] By making such resources available it is possible to closely monitor the mother and foetus at every milestone in the pregnancy and offer both advice and information on how to carry the foetus healthily to full term. However, even with the advent of sophisticated technology and the pressure for more education on this subject, many pregnant women in lesser developed areas in South Asia continue to suffer from poor health and often perish during pregnancy South Asian children have higher body-mass adjusted blood pressure levels than white children in the United States.[3]

It has been shown that in most countries there is an ever increasing disparity between the rich and poor in all facets of life and especially in regards to their health and facilities

available to them. The greatest improvements in professional delivery care can be made by increasing coverage among the rural poor. Problems with availability, accessibility and affordability, as well as the nature of the services and demand factors, appear to contribute to the larger poor-rich inequalities in delivery care.[4] The differences become glaringly obvious when examining the differences of health related quality of life between pregnant women in rural and urban areas. With far more resources being allocated towards the more populous urban areas, the health and lifestyle of those in rural areas, especially of pregnant women, tends to suffer. Rural women are generally thought to have poor health and higher mortality rate because of poor access to perinatal care.[5]

Even though these differences are generally accepted, but very little work has been done to document them. Only once the difference is identified can effective methods be employed to bridge the gap and improve the health related quality of life in both rural as well as urban areas.

This study was designed to assess the mental and physical health of pregnant women and compare the differences between those residing in urban and rural settings.

Subjects and Methods

This was a Comparative Cross-sectional study. The rural population belonged to Community in Nurpur Shahaan (rural Islamabad) and urban population belonged to women visiting Shifa Foundation Community Health Centre, Islamabad. Data was collected using modified Short Form 12 Questionnaire and its translation in Urdu. The questionnaire was used because during its development, extensive and thorough psychometric testing was performed not only on the general population but also on diverse disease groups, and comparisons with other established instruments were also made.[6,7] It was found to be valid in non English speaking populations. The questionnaire was either self administered or read out in Urdu by the research team to the participants who could not read. The research team was trained in the interview technique. All researchers who had to read the questionnaire out to the participants phrased the questions in the same way. Specific keywords to describe or explain the questions were decided before the beginning of the survey. All this was done to standardize the data collection and improve the reliability. The questionnaire consisted of 17 questions. The first five questions were the additions made to the standardized SF12 to record Socio-demographic and clinical characteristics (Table-1). Education was not asked as the effect of education was not the purpose of this study. The only variable of main interest was just the urban and rural setting regardless of education. The next 12 items were used to generate respondent's profiles in eight health scales: Physical Functioning (PF), Role Limitations because of Physical Problems (RP), Bodily Pain (BP), General Health Perceptions (GH), Vitality (VT), Social Functioning (SF), Role Limitations because of Emotional Problems (RE), and Mental Health (MH). Item responses were transformed using scoring algorithms to yield standardized health scale scores ranging from 0 (worst possible health) to 100 (best possible health). This was done as per SF decoding protocol.[8,9] According to the scale all answers got a score from 0-100. Those questions that had five options the least healthy option would score 0, followed by 25, 50, 75 or 100. Those that had two options were decoded to scores of 0 or 100.[8,9] Various questions contributed to one aspect of health and overall mean score of all the questions in that category was taken to be the representative score of that field.

The survey was conducted at the same time simultaneously in both urban and rural setting over a period of 4 weeks. The sample size was calculated using Epi_info 6.0. The expected difference in perception of the Health related quality of life was 25%. For 95% confidence interval and 80% power the sample size came to 69 in each group. For contingencies the sample size was inflated to 80 in each group. Inclusion criteria were all pregnant women in their 1st, 2nd or 3rd trimester. Women with Chronic illnesses or any co-morbid

Table-1: Socio-demographic & clinical characteristics of the survey women (n=179).

		Urban N=83 (%)	Rural N=96 (%)	p*
Trimester	1st	17(17.7%)	18 (21.7%)	<0.001
	2nd	37 (38.5%)	16 (19.3%)	
	3rd	42 (43.8%)	49 (59.9%)	
Occupation	Housewife	77 (80.2%)	83 (100%)	<0.001
	Working	19 (19.8%)	0 (0%)	
Past Pregnancy	first pregnancy	38 (39.6%)	20 (24.1%)	<0.001
	less than 3	53 (55.2%)	36 (43.4%	
	less than 5	4 (4.2%)	13 (15.7%)	
	more than 5	1 (1%)	14 (16.9%)	
Antenatal Checkup	yes	82 (85.4%)	51 (61.4%)	<0.001
	no	14 (14.6%)	29 (34.9%)	
Iron supplements	regular	55(57.3%)	25(30.9%)	<0.001
	occasional	21(21.9%)	24(29.6%)	
	not at all	20(20.8%)	32(39.5%)	

*Chi-square test.

were excluded from the study. Data collected was analyzed with SPSS 10. Scores were assigned to each domain of health and compared between rural and urban women. Chi-sqare test was done to compare the socio-demographic variables and Independent sample t-test was used to compare the quantitative variables. The level of statistical significance was $p<0.05$.

Regular antenatal checkup was defined as at least one visit in each trimester.

The study was conducted only after Institutional Review Board's approval. Since no personal identification was recorded the return of questionnaire or agreeing to answer the questions was taken as the sign of consent.

Results

In the course of this study 179 pregnant women, 83 rural and 96 urban, were surveyed. Modal trimester for both urban and rural was third trimester. Occupation of all the participants from rural area was housewives and among the urban 77 (80.2%) were housewives and 19(19.8%) were working women (Table-1). Most of the women in both urban and rural setting had less than 3 past pregnancies with 14 (16.9%) of the rural women having more than 5 past pregnancies compared to 1(1%) of urban women (Table-1). Most of the women in both

Table-2: Comparison of Quality of life of urban and rural women (n=179).

Variable	Urban*(n=96) Mean±S.D	Rural* (n=83) Mean±S.D	P - value**
Physical Functioning	48.44±25.08	50.60±29.98	0.600
Role Limitations Because Of Physical Problems	48.96±45.29	33.13±44.36	0.020
Bodily Pain	57.55±22.39	59.64±23.69	0.546
General Health Perceptions	44.53±20.58	33.95±22.11	0.001
Overall Physical Health	49.87±22.27	44.40±20.94	0.094
Vitality	45.8333±22.27	44.337±24.99	0.673
Social Functioning	65.1±24.99	65.66±29.66	0.891
Role Limitations Because Of Emotional Problems	66.66±43.32	51.204±48.83	0.023
Mental Health	54.69±17.64	53.97±18.74	0.794
Overall Mental Health	58.07±15.07	53.79±18.01	0.085

*mean values with the maximum value of 100. **Independent sample t test was done.

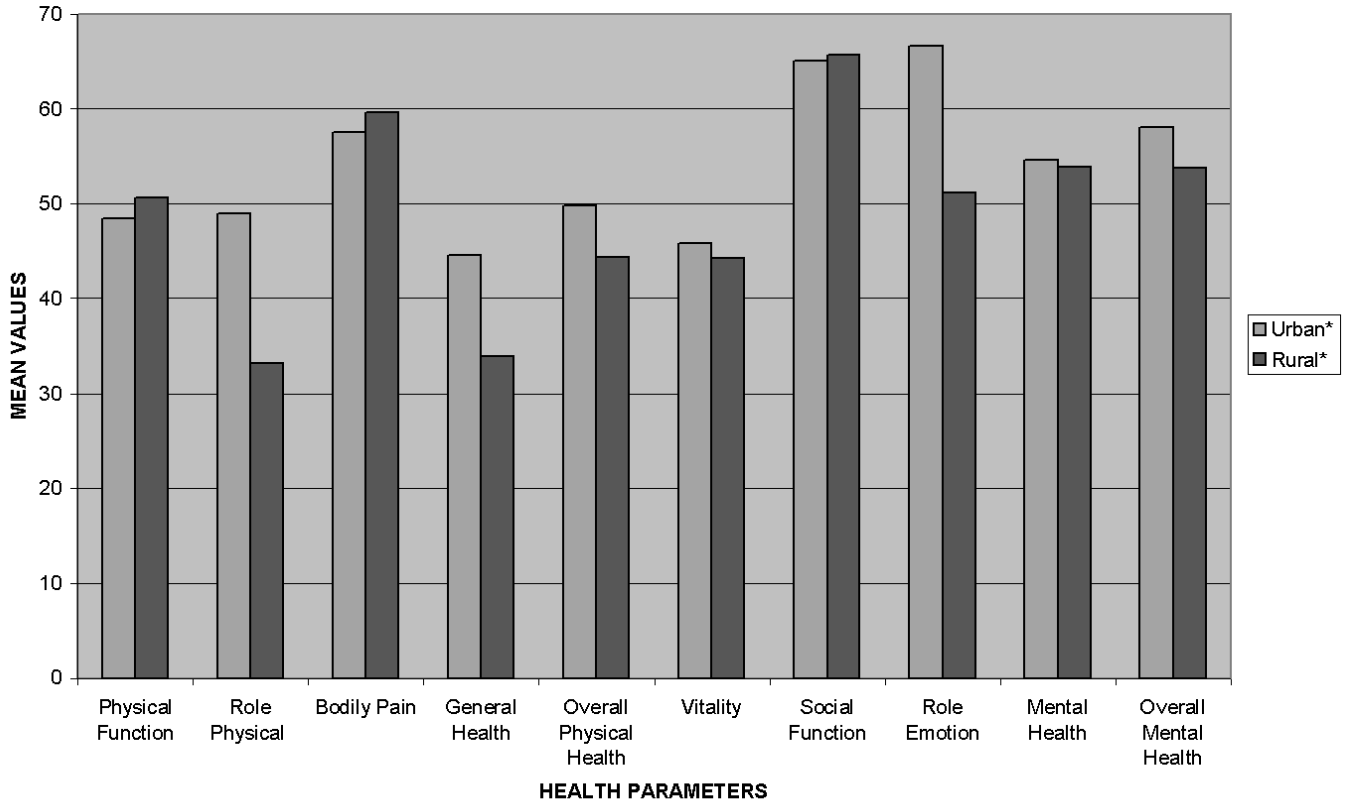

Figure: Comparison of health between urban and rural pregnant women.

locations had regular antenatal check-ups. However, the fraction was higher in the urban 82(85.4%) as compared to the rural 51(61.4%) population (Table-1). Urban women had a higher regular intake of iron supplements 55(57.3%), as compared to rural women 25(30.9%) (Table-1).

There was a difference in all health parameters between urban and rural women. Urban women perceived their health to be better than rural women except in Physical Functioning, Bodily Pain and Social Functioning (Figure). However, the only significant difference between the two groups was in Role Limitations because of Physical Problems, General Health Perceptions and Role Limitations because of Emotional Problems (Table-2). Although differences between both groups existed (Figure) but all were not significant (Table-2).

None of the 19 working women, who were in the group of urban women, felt that they had poor health, were limited 'a lot' in moderate activities because of health, worked less carefully because of emotional problems, had a lot of energy 'none of the time' or 'all the time,' felt downhearted and blue 'all of the time,' experienced interference in their social activities 'most of the time' because of their physical health or had emotional problems.

None of the women among the urban group felt that they were 'none of the times' calm and peaceful during the last 4 weeks.

Discussion

Pakistan has very high maternal mortality rate. Pakistan Red Crescent Society opines that the cause is mostly due to ignorance of the mother's overall well-being during pregnancy and lack of access to health facilities.[5] The quality of life of the mother during pregnancy, her emotional as well as physical health, influences the outcome of the pregnancy. Despite its importance, research on this aspect is limited. This study addresses this issue in Pakistani population. Importance of QOL during pregnancy has also been shown to influence personality of child in later life which was concluded in a study by Ventegodt & Flensborg-Madsen.[10]

Another study by the same authors[11] explored associations between pregnancy, delivery and the global quality of life (QOL) in adulthood. They found that the child is remarkably resilient to external influences during pregnancy and delivery.

Our community-based study showed a significant difference between the self perceived quality of life in pregnant women in urban and rural populations, with the urban women having a perception of better life quality, having included both physical and mental health parameters. This was evident in all aspects of the study but especially significant in the Role Limitations because of Physical Problems, Role Limitations because of Emotional Problems, and General Health Perceptions.

These three factors are significant in their role of the measurement of quality of life due to their intimate relationship with the key factors in a healthy pregnancy. As the results show, there are disparities between the two populations with the urban group having a better quality of life especially significant with regard to the three aforementioned categories.

The reason is the urban group has much more access to health care professionals and education which provides a better lifestyle during the pregnancy.[5,12] Qidwai et al have also highlighted this issue.[13] Both studies emphasize and support the view of rural pregnant women having better healthcare services, and that lack of access to healthcare lead to dissatisfaction.[13]

In this study physical health and perception of general Health of the pregnant urban women was not significantly better than their rural counterparts. The reasons could be that majority of the women were in their third trimester when the health status of all pregnant women is more or less the same, or, it could be lack of regular antenatal checkups. As there is no relevant data available to suggest any other reason, these reasons could influence the result.

Urban women experienced more bodily pain; compared to the rural women the difference was not significant, and there is no data available on this aspect. It could possibly be related to the number of pregnancies. It was noted that 32.5% of rural women had 3 or more pregnancies compared to 5.2% of urban. As physical functioning of the urban women is less than their rural counterparts; and physical stress is more common in rural areas, raising the pain threshold.

The factors in the emotional category included Vitality, Social Functioning, the Role Limitations because of Emotional Problems, and Mental Health. When compared with the physical health categories, the aspects dealing with the emotional factors showed less disparity. Within these emotional factors, significant difference was only seen in the Role Limitations because of Emotional Problems, with the others being more intensely contested. As suggested by Akyn B et al[15] the QOL of pregnant women is related not only to socio-demographic and fertility characteristics, but also to the degree that social support is available and a woman's ability to find time for herself to rest and sleep.[15]

Gross lack of primary medical care for the pregnant women in the rural setting ultimately leads to inadequate knowledge about pregnancy and any complications[13] causing anxiety and resulting in self-imposed restrictions on daily activities. This anxiety adversely affects Role Limitations because of Emotional Problems Poor QOL has been associated by Kurtz Landy C et al with socioeconomically disadvantaged (SED) women, who experience poor mental and overall health. These results can assist policy makers, health service planners

and providers to develop and implement necessary and accessible services.[16]

Another contributory factor is the contrast in the role of emotion is due to the cultural differences between the urban and rural population. Rural families have a more conservative lifestyle and attitude, placing more pressure on the women. Family tension cloud a person's thoughts, especially a pregnant female who lives at home and interacts with such people.

Another contrast between the two population is that the urban women follow a standard plan which is medically approved by their physician. The rural counterpart follows a traditional pattern used in the family which leads to inappropriate restrictions on diet, and daily activities affecting the overall vitality of the pregnant women. Hammoudeh found that the mean quality-of-life score were associated with regional district, refugee status, the loss of a relative due to Israeli occupation violence, standard of living and pregnancy desire which highlights the diversity and complexity of the social context, in particular the region where the women live.[17]

It is also known that, women in early pregnancy with depressive symptoms have a poor health-related quality of life. Early identification and management of depressive symptoms in these women may improve their sense of well-being.[18]

Conclusion

Self-perceived mental and physical health is better in urban pregnant women than in rural women. The difference is more significant in: Role Limitations because of Physical Problems, General Health Perceptions and Role Limitations because of Emotional Problems. Since our rural population was about 40 minutes drive from Islamabad, we believe that the differences will be much more pronounced in more far flung areas. Factors that instigate such differences should be further investigated and interventions which address the root causes should be targeted.

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