SEGMENTATION OF CLIENTS IN INDIA ON THE BASIS OF REPRODUCTIVE HEALTH WELFARE INDEX

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Abstract: This research was done to measure the level of connect between providers of reproductive health services and clients on quality of care parameters and to identify the segments of clients on the basis of their perceptions on quality of care parameters with respect to public and private service providers in the reproductive health sector. The research included analysis of data collected by IIPS and JHU as a follow up study to the 1998-1999 NFHS. The analysis for this study is based upon data collected for 6303 women. To establish the level of connect between providers and clients; reproductive health welfare index was constructed. The index is based on the perceptual associations on quality of care parameters .To arrive at the segments of clients, cluster analysis was done. Thereafter discriminant analysis was performed to establish the differences among clusters. Three segments emerged out of these analyses which were named as beneficiary, adjusted, neglected and marginalized.

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There is substantive literature available that throws light upon public and private health care differentials. The differences can be categorized in three broad manner (Palmer et al, 2003). In one view, private sector is argued to be more efficient than public sector. Second perspective argues that private sector is often not superior in quality or efficiency; contracts are not straightforward to design and implement. Neither, neither public nor private sector has uniform characteristics. The analysis of South African cases shows that there has been difference in nature of services sought by clients (Palmer et al, 2003). Usage of private sector is driven there by inaccessibility of public services, perception of greater privacy, speed of service, quality of diagnosis, prescribing and counselling. Further, findings also indicate that in South Africa, private sector is more likely to be approached for curative services rather than for immunization and chronic conditions like Tuberculosis.

In India, despite having one of the most highly privatized health care systems in the world, there has been an overall lack of collaboration between the public and private sectors despite international policy recommendations and local initiatives. It seems that "conflicting perceptions" might contribute to the uncooperative attitude between the two sectors. To explore these perceptions among key stakeholders in the public and private health sectors in Madhya Pradesh, a study was done by Costa et al. Findings indicate very clearly that there are barriers of mistrust, which hinder true dialogue, are complex, and have social, moral, and economic bases. It suggests that there is need of structural change prior to significant long-term partnership between the two sectors is possible (Costa et al, 2008).

in India, there has always been utilization of private health services along with public health services. Private interest is not restricted to provisioning alone but has penetrated financing, technology, drugs, medical and paramedical education as well (Baru, 2005). The

interaction between private and public providers in health care revolves around forms of partnership (joint venture, providing subsidies and various fiscal incentives, having informal understanding about the provision of services), focus (clinical or non-clinical services, other provisions such as handling management aspect etc.) and flexibility (in terms of having their own structure). Further public-private partnership models can be compared on the dimensions of policy statement, implementing agency within the government, information to prospective bidders/partners, eligibility requirement, condition for making facility operational, participation management, location specification and availability, free care to poor and other price specification, minimum investment requirement incentives, amendments in laws enabling policy implementation, inter-department coordination, response and follow up, public image, problems related to implementation, availability of field personnel etc (Bhat,2000). Citing instances of partnership with Industry and NGOs in primary health care, Bhat shows that in Tamil Nadu, the state government has involved industry in improving the performance of PHCs (primary health centres). Industry was required to adopt a local PHC, health sub-centre or district hospital. It had the responsibility of building, maintaining and equipping the facility. The state government continued to provide staff and medicine. Similarly in Gujarat, SEWA was given the responsibility of providing primary health care services, while government financed it. The study by Bhat (2000) argues in favour of effectiveness of these partnerships; with Industry in Tamil Nadu and with an NGO (SEWA) in Gujarat. However, in India, NGOs have varied performance levels (Mavalankar, 1996), so the selection of partner is a critical factor in partnership.

In year 2006, the Government of Gujarat has started a programme called “Chiranjeevi Yojna” based on the public-private partnership model. In this programme, Gujarat Government outsources deliveries to private gynaecologists. First phase of this programme started in the

districts of Banskantha, Dahod, Kachch, Panchmahal and Sabarkantha. 215 doctors were enrolled during Jan-April 2006. Initially Chiranjeevi Yojna has been made available only to BPL (below poverty line) women. These districts covered 25% of BPL population. Government compensated private gynaecologists. Certain assumptions and procedures were elaborated for deciding compensation. Assumption was that 85% of deliveries would be normal and 15% with complications. The payment for doctor was fixed for a package of 100 deliveries, so that there was no temptation for any doctor to do more caesarean surgeries. The reimbursement was made directly to gynaecologists. BPL woman carried only BPL card. Concerned doctor was supposed to directly pay two hundred rupees to pregnant women as transport allowance. TBA (Trained birth attendant) or person accompanying the expectant mother was paid Rs. 50[3]. The average cost for one delivery was calculated as Rs. 1795. Preliminary evaluation indicates that there was absence of deaths among the 11,146 mothers who delivered under the scheme.

Under public-private partnership framework, there has been partnership between a private academic institute, Jawaharlal Nehru Medical College (JNMC), and the public sector healthcare delivery system for conducting an ongoing Global Network for Women's and Children's Health Research project being implemented at four Primary Health Center areas of Belgaum District, Karnataka, India. The study shows that the partnership has resulted in capacity building and infrastructure development for conducting community-based research projects per international norms. Under the partnership, the ANMs have received training in ethical conduct of research and data collection. (Bellad, M, 2005).

Janani, a non-profit organization, receives donation and support from all kind of organizations both public and private. It claims that it has been instrumental in upgrading

[3] Indian currency in Rupees.

composition of oral contraceptives. It also claims that it was successful in integrating MVA (Manual Vacuum Aspiration) technology for the provision of first trimester abortion procedures into Ministry of Health and Family Welfare policy. It claims to have advocated the use of upgraded Copper-T technology Cu-380 A with 10 year life span in Government's health programme, recommended oral emergency contraceptive as an OTC (Over the counter product) without the doctor's prescription. For the last 10 years, Janani has been working in Bihar. They describe their model as highly innovative health care service model. The model has been studied by various organizations both national and international. Janani has developed its own networks of franchises. It has got clinics known as Surya and centres as Titli. It is also looking at avenues for collaborating with various private companies who are expanding their networks due to potential of rural market. Janani is also engaged in discussions on establishing a systemic way to forge public-private partnership (Janani 2008).

Meta Organizational nature of PPP

A working definition of public-private partnership includes three points. *"First, these partnerships involve at least one private for-profit organization and at least one not-for –profit or public organization. Second, the partners have some shared objectives for the creation of social value, often for disadvantaged populations. Finally the core partners agree to share both efforts and benefits"* (Reich, 2002).However, the partnership is not limited to the service provider only for delivering health services. It may include families in the decision making like a case of designing a service plan for young child with special health care needs (Feinberg 2005). In the context of these facts, it can be inferred that it is not a public-private partnership but public-private partnership(S). Janani also collaborates with many other private players. Therefore, the issue is not partnership per se, but collaboration among various stake holders

including the clients. Such an approach refers to multi-level partnership paradigm. It gets well reflected in the argument that such collaboration between organizations and communities is likely to provide the genesis for meta-organizations (Anand and Parashar, 2006). Genesis of meta-organizations is also based upon specific set of needs and therefore partnerships. Meta organization in reproductive health care sector includes government, funding agencies, NGOs and its partners, clients/communities and private sector. In a Meta organization, organizational control is beyond locus of any one organization or stakeholder.

However, "high level PPP (Public Private Partnership) interactions are in fact instruments of elite governance which advance the corporate-led neoliberal restructuring of the world". (Richter, 2003 as quoted in Buse and Harmer, 2004). According to critics, partnership is usually dominated by corporate elites and it will inevitably subvert the public service of international organizations such as UN or the WHO .Countering this, pluralists argue that there is no one single dominant partner. Many interest groups participate in the process and decisions are often taken by consensus. Further, though neo-pluralist agree with participation of multiple pressure groups, they argue that the agenda is, or is in danger of becoming, biased towards corporate players (Buse and Harmer, 2004). While discussing public-private partnerships in health care, Hsiao refers to marketization as "the illusory magic pill". It is concluded that neither pure centrally planned nor free market health systems can achieve maximum efficiency. A complex mixed system seems to be the way out (Hsiao as quoted in Barr, 2007).

"*The case for privatization ranges from very strong to unpersuasive, with some fascinating intermediate cases. Where purchases are frequent, information is abundant, costs of a bad decision are small, externalities are minimal, and competition is the norm, privatization ought to be pursued. At the other extreme, in situations externalities and collective interests abound,*

natural monopolies are dominant, distribution goals are important, or debate and experience will alter preferences, governmental determination of service levels and public provision should continue. Intermediate situations are….the most interesting and hotly debated areas. These intermediate situations have both private and collective characteristics, choices are made infrequently with little information, have monumental consequences, distributional considerations are critical, and public debate about the level and type of service substantially affects individual behavior (Chamberlin and Jackson, 1987). Inevitability of public-private partnership is not the sufficient reason for integrating these services. Integration through partnership is required to achieve the welfare aspect, promotion of quality of care through competition, and this means partnership not only between two parties but integration among all stake holders including service recipient. Extensive literature is available on interactions among various stakeholders in organizations. These discuss the issue of conflict among different parties (Ashforth 2000, Barker 1999, Clegg et al 2006 Putnam et al 1993)

Governance in reproductive health care

It is observed that many countries including U.S.A. and U.K are having the third revolution in health care. In the first revolution, there was focus on rapid expansion in medicine and technology. The second revolution was era of cost containment. The current third wave is focused on assessment and accountability e.g. in U.K. , Government's efforts at restructuring the entire NHS by making GPs (General Practitioners), and hospitals accountable for managing their own funds and documents such as *Working for Patients* and *The Patient's Charts*, which require health care providers to become more responsive to patient's needs (Tomes & Ng,1995). In the current wave, with the growth in income & education, consumers-especially who are self reliant

and stress individualism, expect an increasing diversity of medical care and institutions (Antonovsky 1987).

Public-private partnership seems to be requiring evolution of detailed norms for use of non-profit insurance schemes. It also requires delivery and services norms. Malpractices as evident throughout the literature (Baru, 2005) on Indian private health hospitals can have two interpretations. First, regulatory systems are not properly evolved and government need to play more active role in that. Secondly, liberalization does not imply shirking off to private service providers. It is not a question of either national health services or Insurance. The main aim is to ensure that quality health services are accessible and affordable to people. In the given context, it can be argued that goal of partnership is not to reduce the role of public-health services but to create alternatives for service recipients at various levels. The objective is to deliver justice. The idea of justice is age old. It is defined as moral rightness which is based upon ethics, rationality, law, natural law, fairness and equity. The main concern is the proper ordering of things and persons. Organizations or Meta organizations need to ensure this proper ordering of things and persons. According to John Rawls (1971) *"Justice is the first virtue of social institutions, as truth is system of thought"*. In the context of organizational justice, the main concerns are inequity, fairness and social comparisons (Adams 1965 Festinger 1954 Folger 1986, 1987, 1998).There are three main forms of organizational justice (Cohen-Carash Y. & Spector 2001). The first one is distributive justice; which considers perceptions of fairness of outcomes. The second form is procedural justice which emphasizes fairness of the methods or procedures used in the organization. The third form is interactional justice, which is based upon the perceived fairness of the interpersonal treatment received, whether those involved are treated with

sensitivity, dignity and respect and also the nature of the explanations given (Cohen-Carash & Spector 2001).

Segmentation of the clients

Two broad group of variables are used to segment clients. In one way, the segmentation is done by looking at the descriptive characteristics: geographic, demographic and psychographic. In geographic segmentation, classification is done in terms of geographical units such as nations, states, regions, countries, cities, or neighbourhoods. In demographic segmentation, population of clients is divided into groups on the basis of variables such as age, family size, family life cycle, gender, income, occupation, education, religion, race, generation, nationality and social class. Psychographics is the science of using psychology and demographics to better understand clients. In psychographic segmentation, clients are divided into different groups on the basis of psychological/personality traits, lifestyle, values or attitudes (Kotler et al. 2006) Then it is examined whether these segments of clients exhibit different needs e.g. with respect to reproductive health services. In second way, segmentation is done on the basis of behavioural considerations such as utilization of health facilities for reproductive health purpose.

Research Objectives of the Study

In the above mentioned context, this research was done to

1. Measure the level of connect between providers of reproductive health services and clients on quality of care parameters, and
2. Identify the segments of clients on the basis of their perceptions on quality of care parameters with respect to public and private service providers in the reproductive health sector.

Materials and Methods

The research was secondary in nature. It included analysis of data collected by IIPS and John Hopkins University (JHU) as a follow up study to the 1998-1999 National Family Health Survey. Follow up survey was done in the states of Tamil Nadu, Maharashtra and erstwhile unified Bihar (Now Bihar and Jharkhand). In 2002-03 these four states were selected to capture the variations in socio-economic and demographic conditions. Sample consisted of 7785 all married, usual resident, rural women of age 15-39 years in 1998 at the time of baseline study. The total number was 4626 for undivided Bihar, 1485 for Maharashtra and 1674 for Tamil Nadu. These women were followed up in 2002-3. The response rates for follow up were 80.4, 81.8, 76.2, and 93.5 percent for Bihar, Jharkhand, Maharashtra and Tamil Nadu respectively. In effect, the analysis for this study is based upon data collected for 6303 women. It consisted of 2666 women from unified Bihar (2843 from Bihar, 823 from Jharkhand), 1117 from Maharashtra and 1520 for Tamil Nadu.

Variables and their Operationalization

Background variables included education level of women (measured at four levels – illiterate, literate but less than middle completed, middle school complete, high school complete and above.), age of women (put into two categories – up to 30 years of age, more than 30 years of age), religion (categorized into Hindu and non-Hindu), ethnicity (categorized into women belonging to scheduled caste/scheduled tribe (SC/ST) and others (castes other than SC/ST), standard of living index[4] (SLI-categorized into women with low SLI , women with medium standard living index, women with high SLI), women autonomy index[5] (categorized into women

[4] Borrowed from NFHS II.
[5] Index computed-discussed in later part.

with low autonomy, women with medium autonomy, women with high autonomy) media exposure (categorized into women with low media exposure, women with medium media exposure, women with high media exposure), state (measured in terms of women belonging to Indian state of Bihar or Jharkhand (clubbed as Bihar), women belonging to Maharashtra and women belonging to Tamil Nadu)

Quality of Care variables included perceptual associations with public or private health facilities in terms of: proximity to the health facility, doctor's availability, short waiting time, medicine, cleanliness, treatment by staff and privacy.

Utilization variables included longitudinal status of utilization for any reproductive health purpose (measured at four levels – no utilization, discontinuous utilization, initiation during follow up and continuous utilization) and facility type (measured at three levels - public health facility, private health facility, and both public & private health facility).

Utilization of health facilities for ANY reproductive health purpose refers to utilization of health facilities for family planning advice or other family planning services or antenatal care or delivery care or post partum care or treatment for self and treatment for sick child in the last one year.

No utilization means that woman has not utilized any of the health facilities type (public or private or both) for ANY reproductive health purpose in the reference period of 1998-2002.

Discontinuous utilization means that woman utilized any of the health facilities type (public or private or both) for ANY reproductive health purpose in the reference period of 1998 but not of 2002.

Initiation during follow up means that woman did not utilize any of the health facilities type (public or private or both) for ANY reproductive health purpose in the reference period of 1998 but started utilizing in the reference period of 2002.

Continuous utilization means that woman has utilized any of the health facilities type (public or private or both) for reproductive health purpose in the reference period of both 1998 and 2002.

Data Analysis and Indices Construction

In this study following Indices of women autonomy were constructed. These indices have their theoretical roots in the work of Jejeebhoy and Sathar (2001).

To construct women's mobility index, the following questions were taken: Do you need permission to: Go to the market? Visit relatives or friends inside the village? Visit relatives or friends outside the village? Take sick child to health centres? The responses to the above questions were captured on need permission- yes or no, or not allowed. For the purpose of mobility index construction, yes need permission and not allowed categories were merged and not allowed has been kept separately. Yes! Need permission and not allowed categories were merged and given the code of 0. Not allowed has been given the code of 1.

To construct women's decision making index, the following questions were taken: Who makes the following decision in your household? What items to cook? Obtaining health care for yourself? Purchasing jewellery or other major household items? Your going and staying with parents or siblings? The responses to these questions were captured on 5 points scale: Respondent (Self), Husband, Jointly with husband, others in Household, Jointly with others in household. The categories of respondent (Self), jointly with husband and jointly with others in household have been merged and assigned the code of 1. Husband and others in household were

merged and assigned the code of 0. There was another question in status of women section: Do you need permission to purchase the following? Household items? Clothing items? A piece of jewellery? A gift for a relative? Medicine? The responses were captured as yes=1 and no=2. Those were recoded as No=1 and yes=0 to create uniformity in scale construction.

To construct access to economic resources index, the following question has been used in IIPS-JHU study. Who manages the (bank) account? Responses were coded into-Respondent (Self), Husband, Jointly with husband, Others in Household, Jointly with others in household. The categories of respondent (Self), jointly with husband and jointly with others in household have been merged and assigned the code of 1. Husband and others in household were merged and assigned the code of 0.One more item has been used to construct access to economic resources index: Are you allowed to have some money set aside that you can use as you wish? Access to economic resources is combination of bank account management and freedom to put some money aside.

To construct freedom index, two items from the IIPS-JHU study have been taken. The first item indicates attitudinal justification of domestic violence: Sometimes a wife can do things that bother her husband. Please tell me if you think that a husband is justified in beating his wife in following situation: If she is unfaithful. Responses were captured on following 5 points agreement scale. Disagreement (disagree or strongly disagree) has been taken as attitudinal freedom from domestic violence and coded as 1. Other categories are merged and taken as 0.The second item indicates the physical violence. The question asked was: Thinking about your own marriage, has your husband ever: Pushed you, pulled you, or held you down? The responses were captured into yes and no. For the purpose of index construction, these have been recoded as

yes =0 and no =1. Freedom index is combination of attitudinal freedom from domestic violence and real freedom from violence.

Women Autonomy index is unweighted composite index of women's mobility index, decision making index, access to economic resources index and freedom index.

To establish the level of connect between providers of reproductive health services and clients, Reproductive health welfare index (RHWI) was constructed. The index is based on the perceptual associations on quality of care parameters w.r.t. proximity (closer to home or work place), doctor's availability (availability of doctor when needed), short waiting time, availability of medicines, cleanliness of facility, staff's treatment of client, provision of privacy, affordability of services and effectiveness of treatment. If associations are there with government or public, it is assumed that the highest level of reproductive health welfare is achieved in the state. It is followed by associations with private services, then comes ignorance i.e. if woman does not know enough about the services to make her judgment. In the end, it is alienation where a woman says that quality of care is not present with any of the services. Responses on each individual parameter are recorded in the above hierarchy and then aggregate score is arrived at after simple summation of scores on individual parameters.

To arrive at the segments of clients, cluster analysis was done. Cluster analysis was done on the basis of aggregate reproductive health welfare index to understand the segments of clients. In cluster analysis, the tentative numbers of clusters were identified with the help of hierarchical clustering. After that three clusters solution was finalized with the help of k means clustering by looking at the distances between clusters and cluster sizes. Thereafter discriminant analysis was

performed to establish the differences among clusters. For discriminant analysis reproductive health welfare scores on quality of care parameters were used.

Findings on Segmentation of Clients

Based on cluster analysis on reproductive health welfare index, three segments of clients were arrived at. Segments were defined with the help of discriminant analysis. Discriminant analysis was done on quality of care related perception variables. It highlights the two functions formed on quality of care related perception variables. The first function constitutes of positives on proximity, availability of doctor, short waiting time, availability of medicines, cleanliness of facility and staff's treatment of client. The second function constitutes of positive on privacy and negatives on affordability and effectiveness of treatment (Table II). The segment of beneficiary is positive on first function and slightly negative on second function. The segment of adjusted is positive on function one. The segment of neglected and marginalized is negative on function one (Table III).

Segment 1- Beneficiary

It has the highest level of welfare perceptions. It seems to have received relatively higher level of health workers' visit. Level of public facilities' utilization is higher in this segment. It is associated with relatively higher level of women autonomy and media exposure. There is relatively higher concentration of segment one in Maharashtra. Its size is relatively small, 8 percent of the sample of four states combined (Figure I).

Segment II- Adjusted

Adjusted segment is characterized by higher literacy level, higher standard of living, high level of health workers' visit and medium/high media exposure. It has the highest concentration in Tamil Nadu followed by Maharashtra and Bihar, relatively higher level of continuous utilization, medium women autonomy and higher proportion of Hindu. This segment is the largest segment, 70 percent of the sample of four states combined (Figure I).

Segment III- Neglected and Marginalized

Neglected and marginalized segment is characterized by the highest level of illiteracy, higher proportion of non-Hindu, not visited by health workers' visits, low women autonomy, low media exposure. It has the highest concentration in Bihar, the highest level of no utilization and relies heavily upon private sector in reproductive health care. This segment is 22 percent of the sample of four states combined (Figure I).

Segmentation Analysis and Genesis of Theory of Cognitive Intermediation

The segmentation analysis in this study clearly shows that the segment of neglected and marginalized is 22 percent of the sample of four states combined. As the segmentation is based upon clients' scores on RHWI, it shows their cognitive relationship with the public and private sectors. Cognitive relationship implies here that up to what extent clients know and feel that state is making attempts for reproductive health welfare of the clients. Up to what extent they know and feel that it is providing reproductive health care through its organizations in public sector. Cognitive relationship also describes the extent to which clients know and feel that state is facilitating and regulating the role of private sector in reproductive health care. In this study, RHWI tries to measure the extent of cognitive inequality in India. Cognitive inequality as

observed in the utilization of reproductive health facilities for reproductive health care is likely to be manifestation of wider social inequalities of caste, region, income etc. In this manner, RHWI is a measure of clients' perceptions (cognitions) and reflects upon the need for cognitive justice. The term 'cognitive justice' has been borrowed from Visvanathan's works (Visvanathan 1998, 2001). In cognitive justice one gives equal importance to people's voice across the sections of society. That implies here that health care organizations need to give equal importance to the segments of beneficiary, adjusted and neglected & marginalized. Cognitive inequality among the segments, which is based upon cognitive relationship with the state, can be looked at from inequity perspectives and therefore justice.

Harold Demsetz in the Journal of Law and Economics in 1973, showed that organization's ability to maximize their performance is dependent upon their differential ability to meet the needs of clients or consumers. Demsetz argued that resulting heterogeneity in performance of organization was consistent with social welfare because of its linkage with the fulfillment of need of the customers (Demsetz 1973). So, heterogeneity in performance of these facilities in public and private sectors cannot be seen in terms of their ability to meet the quality of care related needs of clients and seems to be consistent with social welfare. These health facilities in public and private sectors, in different states of India at different stages of demographic transition, have unequal access to various resources that is human resources, organizational culture, .They have different political and cultural environment. This inequality in access to resources by health facilities or organizations is well explained by resource-based theory of Barney (1986). This inequality in resources is manifested in cognitive inequality scores which has been measured as RHWI scores in this study.

The theory of cognitive justice emerges in the work of Visvanathan in the context of politics of knowledge where the argument is given in favour of indigenous cultural knowledge. Visvanathan has argued that voice of common man should be incorporated in public policy. By incorporating common man's voice, the objectives of equity can be achieved. In this study, the theory of cognitive justice is further extended to incorporate people's voice for dignified treatment irrespective of the social identity (Tajfel 1969, 1974, 1981) which they have. The equity, fairness in distribution of treatment, has to be delivered irrespective of the impression (Goffman 1959) which women create in front of service providers when they visit health facilities. So, the idea of cognitive justice has been extended from public policy to public systems. Now in the context of public-private partnerships, the cognitive justice has to be delivered in emerging Meta organization. In this way, this study argues in favour of creating 'cognitively just' Meta organization of public-private partnerships. It helps ensure that equity is maintained in quality of care at the level of cognition. The findings in this study seem to suggesting upon the core competence of this 'cognitively just' Meta organization of public-private partnerships. When clients are integral part of the organization in the form of various committees being created by NRHM (GOI 2004), those represent self driving force within the Meta organization (Shiva 1997). By design, these committees are likely to be critical component of the emerging Meta organization. The success of this emerging Meta organization of public-private partnerships is likely to be dependent upon the 'cognitive mediation competence' of the organizations. In this manner, the findings give genesis to the theory of cognitive mediation to explain the core competence of emerging Meta organization of public-private partnerships. According to this theory success of health care organizations in primary health care seems to be dependent upon their ability to create an environment for the clients where irrespective of the

socio-economic inequality, equity at the level of cognition shall be delivered in terms of quality care. There should be equity in the treatment given to the clients in terms of dignified treatment. So, the ability of the health care organizations to provide cognitive justice through cognitive intermediation by process and structure of health care organizations is likely to define their success. Here cognitive justice can be achieved through the interactions between organization and clients. This kind of justice is also referred as interactional justice in the literature of organization justice. The idea of intermediation is borrowed from the work of Kabir & Krishnan (1992), who have used social intermediation theory to explain the demographic transition in Kerala. Social intermediation in their work is defined as interventions at different levels in society, by various agents, to change the social and behavioural attitudes within the then prevailing social environment to achieve desired social outcomes (Krishnan 1998).

Conclusions

It is concluded that cognitive inequality as observed in the utilization of reproductive health facilities for reproductive health care is likely to be manifestation of wider social inequalities of caste, region, income etc. So, it confirms that there is need to provide cognitive justice to the clients in reproductive health care sector. That implies here that health care organizations need to give equal importance to the segments of beneficiary, adjusted and neglected & marginalized. From findings, it is inferred that there is need of cognitive intermediation, which is likely to define core competence of health care organizations in India.

Table I: Segments and their descriptors

		Segment 1		Segment 2		Segment 3	
		n	%	n	%	n	%
Education	Illiterate	333	7.6	2958	67.5	1094	24.9
	Literate < Middle completed	90	8.8	781	76.3	153	14.9
	Middle School complete	89	10	687	76.8	118	13.2
Age	Up to 30 years	244	8	2116	69.4	690	22.6
	More than 30 years	268	8.2	2310	71	674	20.7
Religion	Hindu	460	8.3	3940	71.2	1133	20.5
	Non-Hindu	52	6.7	486	63.2	232	30.1
Ethnicity	SC/ST	143	8	1258	69.9	398	22.1
	Others	367	8.2	3161	70.3	966	21.5
SLI	Low	263	7.9	2270	68.2	798	24
	Medium	209	8.7	1721	71.6	473	19.7
	High	38	7.1	402	75.4	93	17.5
Health workers' visit	No	293	6.9	2763	65.3	1174	27.8
	Yes	219	10.6	1663	80.3	190	9.2
Women autonomy	Low	249	7.7	2189	68	780	24.2
	Medium	184	8.7	1650	78	282	13.3
	High	31	9.4	235	70.7	66	19.9
Media exposure	Low	39	6.6	427	72.4	124	21
	Medium	45	7.5	486	80.8	71	11.7
	High	94	13	552	76.7	74	10.3
State	Bihar	235	6.4	2196	59.9	1235	33.7
	Maharashtra	172	15.4	898	80.4	46	4.1
	Tamil Nadu	105	6.9	1332	87.6	84	5.5
Proximity with health facility	Facility available in the village	246	8.2	2112	70.2	648	21.6
	Facility available outside the village <=3 km	116	7.7	1061	70.1	337	22.2
	Facility available outside the village >3 km	150	8.4	1253	70.3	379	21.3
Utilization status	No utilization	116	7.4	953	60.4	509	32.3
	Discontinuous utilization	63	8	527	66.5	203	25.6
	Initiation during follow up	141	8.4	1137	68.1	392	23.5
	Continuous utilization	192	8.5	1809	80	260	11.5
Utilization facility type	Public	93	21.8	306	71.6	28	6.6
	Private	104	4.3	1774	73	552	22.7

Table II: Structure Matrix (Discriminant Function Coefficients)

	Function 1	Function 2
Closer to home or work place	0.38324885*	-0.27193
Doctor's Availability	0.36175137*	-0.04605
Short waiting time	0.32881264*	0.060935
Availability of medicines	0.31372931*	-0.20371
Cleanliness of facility	0.30934654*	-0.06446
Staff's treatment of client	0.25389587*	-0.00729
Provision of privacy	0.32891483	0.803342*
Affordability of services	0.33016477	-0.47167*
Effectiveness of treatment	0.30683628	-0.45561*

Table III: Discriminant functions at Group Centroids

	Function 1	Function 2
Segment 1	3.45176329	-0.83318
Segment 2	0.54025208	0.146955
Segment 3	-2.79123318	-0.22112

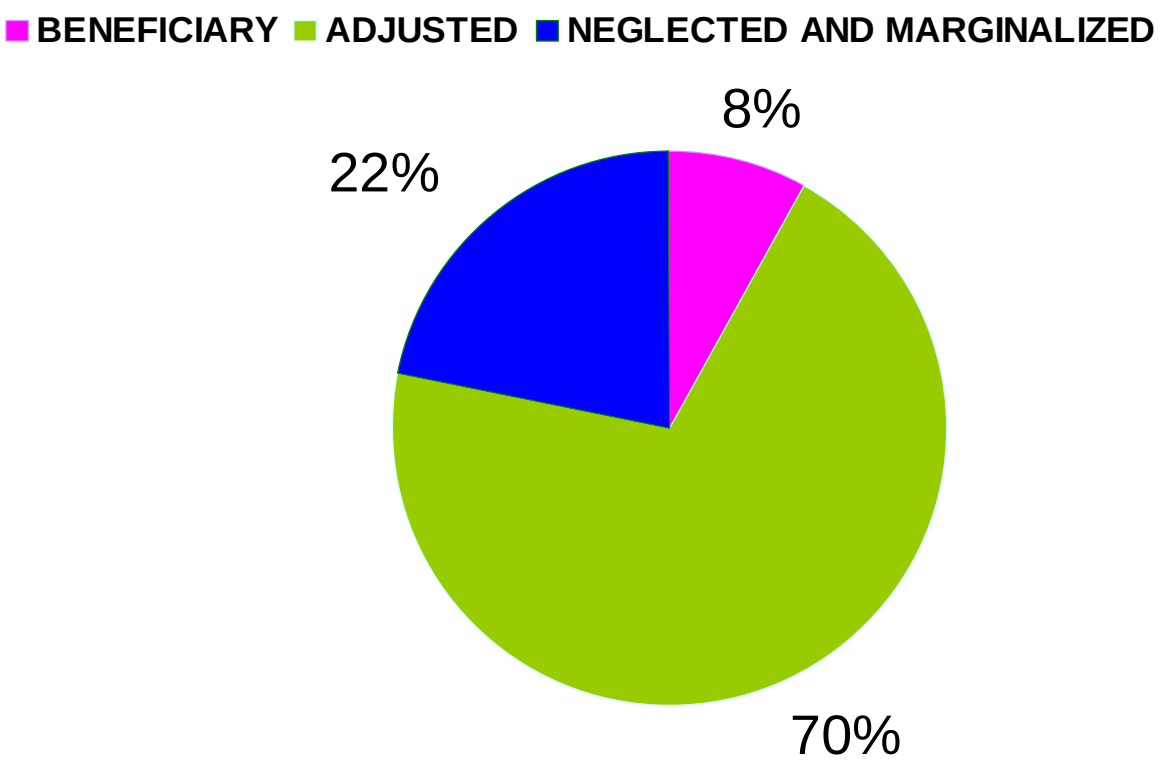

Figure I. Results of Cluster Analysis (Size of 3 clusters or segments)

References

Adams, J.S. 1965. Inequity in Social Exchange. In I. Berkowitz (ed.) *.Advances in Experimental Social Psychology*. New York : Academic Press: 267-299.

Anand, S., & Parashar, V.2006. Integrating Local and Global Knowledge through ICT: Implications for Rural Business and Development. *IIMB Management Review,*18(1): 85-93.

Antonovsky, A. 1987. Unraveling the Mystery of Health. San Francisco : Jossy-Bass.

Ashforth, B.E. 2000. *Role Transitions in Organizational Life : An identity based Perspective.* Mahwah, NJ: Lawrence Erlbaum Associates.

Barker, J.R. 1999. *The Discipline of Teamwork : Participation and Concertive Control.* London:Sage.

Baru, R .2005. Private Health Sector in India- Raising Inequities in Gangolli, L.V. Duggal, R. and Shukla , A. (eds.). *Review Of Healthcare In India*. Mumbai :Centre for Enquiry into Health and Allied Themes.

Barney, J.B. 1986a. Organizational Culture: Can it be a Source of Sustained Competitive Advantage? Academy of Management Review.11 (3): 656-665.

Barney, J.B. 1986b. Types of Competition and the Theory of Strategy: Toward an Integrative Framework. Academy of Management Review. 11(4):791-800.

Barney, J.B. 1986c. Strategic Factor Markets: Expectation, Luck and Business Strategy. *Management Science.* 32:1231-1241.

Bellad, M. 2005. Public –private partnership in health research: experiences from a community – based research project in South India. Presentation made at Forum 9, Mumbai, India, 12-16 September 2005

Bhat, M. 1998. Contours of fertility decline in India: a district level study based on the 1991 census. In Martine, G., Gupta, M.D., & Chen, L.C. (eds.). *Reproductive Change in India and Brazil.* New Delhi: Oxford

Buse, K., & Harmer, A. 2004. Power to the partners?: The Politics of public-private health partnerships. Development. 47 (2):49-56.

Chamberlin, J. R. & Jackson, J. E. 1987. Privatization as Institutional Choice. *Journal of Policy Analysis and Management,* 6(4): 586.

Clegg, S.R., Courpasson, D. & Philips, N. 2006. *Power and Organizations*. London: Sage Publications.

Costa , A. D., Johansson, E. , Diwan, V. K. 2008 .Barriers of Mistrust: Public and Private Health Sectors' Perceptions of Each Other in Madhya Pradesh, India. *Qualitative Health Research,* 18(6): 756-766

Demsetz, H. .1973. Industry Structure, Market Rivalry and Public Policy .*Journal of Law and Economics.*16:1-9.

Festinger, L. 1954. A Theory of Social Comparisons. *Human Relations.*7:117-140.

Feinberg, E. 2005. Enlarging the Paradigm Public-Private Partnership in the Design of a Service Plan for Young Child with Special Health Care needs. *Infants And Young Children,*:11-16.

Folger, R.1986a. A Referent Cognitions Theory of Relative Deprivation .In J.M. Olson, C.P. Herman & M.P. Zanna (eds.), *Social Comparison and Relative Deprivation: The Ontario Symposium.*4. 33-55. Hillsdale, NJ: Lawrence Erlbaum Associates.

Folger, R.1986b. Rethinking Equity Theory: A Referent Cognitions Model .In H.W. Bierhoff, R.C. Cohen, and J. Greenberg (eds.), *Justice in Social Relations.*146-162. New York : Plenum.

Folger, R. 1987. Reformulating the Preconditions of Resentment: A Referent Cognitions Model. In J.C. Masters and W.P. Smith (eds.), *Social Comparison, Justice, and Relative Deprivation : Theoretical, Empirical and Policy Perspectives*: 183-215. Hillsdale, NJ: Lawrence Erlbaum Associates.

Folger, R. & Cropanzano, R.1998. *Organizational Justice and Human Resource Management.* Thousand Oaks, Calif : Sage Publications.

Goffman, E. 1959. *The Presentation of Self in Everyday Life* New York : Doubleday Garden City. (Penguin 1971)

Government of India. 2004. *National Rural Health Mission 2005-2012.* New Delhi: Ministry of Health and Family Welfare.

Hsiao, W.C. 1992. Comparing Health Care Systems: What Nations can Learn from One Another. *Journal of Health Politics, Policy and Law.*17(4): 613-636

International Institute for Population Sciences (IIPS) and ORC Macro. 2000. *National Family Health Survey (NFHS-2), India, 1998-99* .Mumbai: IIPS.

Jejeebhoy, S..J., & Sathar, Z.A. 2001. Women's Autonomy in India and Pakistan : The influence of religion and region. *Population and Development Review,* 27(4).

Janani.2008. http://www.janani.org. Last accessed on October 14,2008.

Kabir,M. & Krishnan, T.N.1992. Social Intermediation and Health Transition-Lessons from Kerala. Working Paper No. 251. Trivandrum: Centre for Development Studies.

Kotler, P., & Keller, K.L.2006. *Marketing Management.* New Delhi : Prentice Hall of India.

Krishnan, T.N. 1998. Social Development and Fertility Reduction. In Martine, G., Gupta, M.D., & Chen, L.C. (eds.). *Reproductive Change in India and Brazil.* New Delhi : Oxford

Mavalankar, D.V.1996. *Quality of family planning programme in India: A review of public and private sector.* New Delhi : The Population Council, India.

Palmer N, Mills A, Wadee, H., Gilson, L., & Schneidler, H. 2003. A new face for private providers in developing countries: what implications for public health?. *Bulletin of the World Health Organization,* 81(4): 292-297.

Putnam, R.D,, Leonardi, R. & Nanetti, R.Y. 1993. Princeton, NJ :Princeton University Press,

Rawls, J. 1971.*Theory of Justice.* Cambridge, MA: Belknap Press of Harvard University Press.

Richter, J. 2003. 'We the Peoples'or 'We the Corporations'? Critical reflections on UN-business 'partnerships', Geneva: IBFAN.

Shiva, V. 1997. The Plunder of Nature and Knowledge. Cambridge : South End Press.

Tajfel, H. 1969. Cognitive Aspects of Prejudice. *Journal of Social Issues.* 25: 79-97.

Tajfel, H.1974.Social identity and intergroup behaviour. *Social Science Information.*13: 65-93.

Tajfel, 1981. *Human groups and social categories.* Cambridge: Cambridge University Press.

Tomes, A. E, & Ng, S. C. P. 1995. Service quality in hospital care: The development of an in-patient questionnaire. *International Journal of Health Care Quality Assurance*. 8 (3): 25

Visvanathan, S.1998. A Celebration of Difference: Science and Democracy in India. *Science. 280, Issue 5360*

Visvanathan, S. 2001. 'Knowledge and Information in a Network Society'. *Seminar*. July: 503.