ABSTRACT

**Background:** Trust in physicians is the optimistic acceptance of vulnerability of the patient in the belief that the physician will do what is in the best interest of the patient. Trusting doctor-patient relationships are the cornerstone in clinical encounters. There is enough evidence to show that high levels of trust in health care leads to favorable outcomes such as increased adherence to treatment, increased follow up, reduced cost of health care, reduced need for second opinions, and a placebo effect of cure. Not much is known about trust in health care in the developing health care settings like India. The dimensions and determinants of trust in physicians in these settings are likely to be different and influenced by the fact that there is no universal access to good quality health care. There is a need to understand trust in physicians in these settings.

**Objectives:** This study was done to understand the dimensions and determinants of trust in physicians in developing health care settings.

**Methodology:** The research was conducted as a sequential study design with qualitative exploration of dimensions and determinants of health care followed by a quantitative cross sectional survey. In the first stage, in depth interviews, 35 in number, were conducted among marginalized communities in rural Dharmapuri district and migrant construction laborers in urban areas of Chennai, Tamil Nadu. The interviews were transcribed, coded and thematically analyzed using grounded theory approach with the help of the qualitative data analysis software, QSR NVivo version 7. This part of the study identified the dimensions and determinants of trust in health care. In the second stage of the study based on these findings, a quantitative cross sectional study with a multistage sampling from four districts of Tamil Nadu was conducted. The sample size was calculated as 600, based on the heuristics for application of multivariate structural equation modeling. Household data was collected by trained investigators using a questionnaire which contained socio-demographic details, items on a Likert type scale to
enumerate the dimensions of trust in physicians and items to identify the factors influencing trust in physicians. The data were entered into SPSS Statistics software version 17.0.1 and analyzed for simple frequencies and descriptives. To further understand the factors influencing trust in physicians, exploratory factor analysis was performed. Using the factor scores, k means cluster analysis was done to segment the sample into groups based on the factors that influenced their trust in physicians the most. In order to validate the conceptual framework of trust that emerged from the qualitative study a structural equation model was constructed after considering statistical assumptions using the AMOS statistical software package version 20. The model had trust in physician as the dependent latent variable and the factors influencing trust as independent latent variables. Standardized Root Mean Squared Residuals (SRMR) of less than 0.08, Comparative Fit Index (CFI) greater than 0.95, Tucker Lewis Index (TLI) greater than 0.95 and Root Mean Square Error Approximation (RMSEA) less than 0.06 were used for assessing fitness of the structural equation model. In the third stage, in an attempt to validate existing scales of trust in physicians, the trust in physician scale (Anderson and Dedrick) was administered in hospital and community based settings. The data were analyzed to check for construct validity using exploratory factor analysis. Following this, classical test theory and item response theory approaches were used to develop a new trust in physician scale using the dimensions of trust captured in the quantitative survey. After confirming unidimensionality using confirmatory factor analysis and local independence using the LD-$X^2$ bifactor statistics, a Semajima’s graded response model was fit for the 22 selected items representing the dimensions of trust in physicians. Based on the item discrimination, difficulty parameters and the item information functions a final tool to measure trust in physicians (12 items) was developed and its test information function assessed. In order to establish predictive validity this new 12 item scale, was administered among respondents from 234 systematically sampled households in an urban area in Chennai. Alternate households were asked to respond to the scale with respect to a physician who they trusted and a physician whom they distrusted respectively to check if the scale is able to discriminate between them adequately. Discriminant function analysis was done to assess the validity and accuracy
of classification. Finally in the fourth stage, to understand the perspectives of the health care providers about trust in physicians a sample of 200 health care providers including doctors, dentists, nurses and other allied health providers were interviewed with the help of a structured questionnaire in the state of Kerala, neighboring to Tamil Nadu in southern India. The data were analyzed to assess the frequencies with which the providers responded to each dimension of factors influencing patients’ trust in physicians. Further the dimensions identified by the community were compared with those identified by the providers.

**Results:** Perceived competence, treatment assurance, willingness to accept drawbacks in the physician, loyalty to the physician and respect for the physician were identified as the key dimensions of trust in physicians in the qualitative study. The determinants of trust that were identified were comfort, personal involvement, behavior and approach of the physician, economic factors and health awareness of the community. The quantitative assessment of the survey data showed that the community validated that perceived competence, treatment assurance, loyalty to physician and respect to the physician are important dimensions of trust in physicians. Based on the factor and cluster analysis of factors influencing trust in physicians the community was segmented into four clusters namely, people who trust based on comfort, based on personal involvement of the physician, based on objectively assessed factors such as behavior of the physician and based on emotionally assessed factors such as shared identity and simplicity. It was also found that the more marginalized groups were comfort and emotion based trusters and those belonging to higher education, employment and better socio-economic status were personal and objective trusters. Based on the structural equation model, trust reflected highly upon the dimensions of respect, treatment assurance and perceived competence. It was also seen that behavior of the doctor and comfort were associated with trust in physicians. Other than sex of the respondents no other socio-demographic variables had an influence on trust in physicians. Women trusted their physicians lesser than men. The attempts to validate the pre-existing scale of trust in physicians revealed that both in the hospital and the community settings, the older scale (Anderson and Dedrick) did not
show good construct validity though the internal consistency was in acceptable range. This revealed a need for a new scale to measure trust in physicians in this setting. Using the 31 items in the quantitative survey which represented the various dimensions of trust in physicians, classical test theory methods and confirmatory factor analysis showed that 22 items defined a unidimensional construct of trust. The LD-X$^2$ bifactor analysis showed that there was very low local dependence. The Semajima’s Graded Response Model showed good discrimination and difficulty parameters for each item. Those items with poor item information function and poor item level significance calculated using S-X$^2$ method were removed. The remaining 12 item scale had a good test information function in the range of -2 to +1 of trust level. Therefore the scale performed optimally in the low to moderate trust range. The discriminant function analysis of this scale showed a classification accuracy of 83%. The sensitivity of the scale to identify those who trust their physicians versus those who do not trust their physicians was 83.9% and the specificity was 83%. The survey among the health care providers showed that they identified technical competence and certain behaviors to be highly influencing the patients’ trust. They also mentioned that spending more time with the patients, declaring their lack of knowledge about the patients’ condition and confession of mistakes were of low priority as factors influencing patients’ trust.

**Conclusions:** The dimensions and determinants of trust in physicians seem to be different in developing health care settings compared to the existing understanding from the developed settings. The trust discourse is largely based on emotional factors such as respect, and assurance of treatment rather than objective assessments such as competence or confidentiality. The new scale developed to measure trust in physicians has good psychometric properties and has an acceptable sensitivity and specificity in classifying patients based on their trust. There is a difference in the way trust in physicians is perceived by the community and the providers. There is a need for further conceptual understanding of trust in physicians from various communities and in various health care settings.