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Original Article

Assessment of Overall Self-Care Among the East Indian Population: An Experimental, Observational, and Validated Study

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ABSTRACT

Introduction: The aim was to construct a tool to assess the overall self-care of an individual and to determine the correlation of the collected data with a 15- day interval for the validation of the specially designed datasheet in a semi- urban population in West Bengal.

Materials and methods: This cross-sectional study comprised structured questions on overall self-care (CARE) related topics for individuals within a specific population, focusing on socio-demographic variables. Oral health- related behavior was assessed in 25 study subjects aged 2-80 years attending a dental clinic in Sonarpur, West Bengal, India. Data was recorded with a specially designed questionnaire in written form. Statistical analysis was carried out to determine the distribution of variables related to lifestyle and assess the correlation of the determinants by evaluating the kappa value.

Results: The study subject population includes various ages, from that of a child (over 2 years who can consciously speak with understanding the situation) to older age (80 years); both gender; employed or unemployed; with or without education; any income; any socioeconomic status; high, moderate or poor lifestyles, for evaluation of their overall self-care. All the social, personal and family related data evaluated in the same subjects with a same evaluator (PI) and the same datasheet along with necessary consent or assent, in a 15 days interval and the statistical evaluation indicate at the data set or questionnaire set is statistically valid with a kappa value (k) of '1' or 'close to 1'.

Conclusion: Patients' involvement in overall self-care, including promoting healthy habits, accepting community-aided assistance, and maintaining a balanced diet, leads to a generally good lifestyle. These self-care regulatory factors, along with parental or caregivers' care, judicial use of potable water, proper use of toilet, use of mosquito net, availability of emergency health assessment and restoration kit like thermometer, emergency medicines, blood pressure machine in proximity to the house, may help to improve or protect their overall self-health for the future.

Keywords: Community benefits, Lifestyle, Overall self-care, Overall Self-Care Index, The Sonarpur Model

BACKGROUND

The worldwide population is in a conundrum, and the demand for care is growing with increased interest. To address these community consequences, the roles of self-care, family care, and community care are becoming increasingly important in providing support, collectively with formal healthcare services [1,2]. Everyone assumes that healthcare for an individual is the medical services provided by professionals, but it is true that not all forms of care services are provided formally, globally. In fact, most care is provided informally (through self-care, care from family members or friends within the society or community) rather than formally [3].

Unlike Western society, which encourages "individualism", the Indian society believes in a "collectivistic concept", which promotes interdependence and co-operation and forms a family with a heritage value of this social structure. These families are therefore far more involved in caring for their members, both healthy and sickly, and also suffer more oppression than their Western counterparts [4]. The care recipient may be a family member, life partner, neighbour, or friend, and caregivers are the most remarkable representatives of the healthcare system, having to play a crucial role in an international public health priority [5].

Conforming to the concept provided by the Family Caregiver Alliance [6, 7, 8], a family caregiver is an individual who provides continuous, unpaid care and assistance to a family member in need due to physical, cognitive, or mental health conditions [9].

However, in a broader sense, the caregiver is a custodian of an individual who may utilise the social assistance provided by the community as a whole, as well as address all medical, psychological, emotional, and social needs, which may ultimately lead to enlightenment and help resolve the global burden [10].

There is suggestive evidence that a patient's education level is the best predictor of health conditions and healthcare behaviour in adults, which may be compared with other socioeconomic indicators [11,12,13,14,15,16]. Similarly, in dentistry, among the socioeconomic factors, parental [15] or caregiver's education level is closely interdependent with children's dental visits, tooth brushing frequency, and dental caries prevalence [17,18,19].

Various community support proposals have been implemented and provided to all individuals through different schemes, including the government's provision of pure water [20], the free distribution of mosquito nets [21], and the installation of toilets in every home [22, 23]. These initiatives are essential for an individual's overall well-being and personal growth.

But it is the tragic story that, in a developing country like India, many individuals have been facing problems in getting that type of community and/or social support, leading to suffering from health issues [24]. Although much improved from previous days, many sweet homes are still lacking basic health check-up gadgets, such as thermometers, blood pressure machines, and emergency medicines, which can lead to difficulties in emergencies.

Lifestyle constitutes the behaviours that are directly linked to health outcomes [25]. Hence, unhealthy lifestyles like consumption of a sugar-rich diet, poor nutrition, use of tobacco, inadequate oral hygiene practices, stress, and inferior living conditions can establish themselves as the major risk factors for higher dental disease occurrences. The lifestyle of an individual reveals their attributes and enables the study of their behaviour in a broader sense. However, there is no uniform concept of what constitutes a "lifestyle". The study also states that the particulars that measure lifestyle can be selected in accordance with the research dictates.

Breslow had recommended seven habits that can contribute to an overall healthy lifestyle, including adequate sleep, abstaining from smoking, moderate alcohol consumption, maintaining a healthy weight, regular exercise, eating a daily breakfast, and reducing snacking between meals [26,27].

The presence of an ideal caregiver (parent of a child, spouse of an adult, or son-in-law or daughter-in-law of an elder), regular monitoring of food consumption, and regular monitoring of education can have a positive impact on the assessment [28, 29, 30].

Different studies suggest that the presence of a parent in the home influences preschoolers' health and decreases the health burden [31,32,33,34]. Similarly, the availability of emergency medicines, including a thermometer and a blood pressure machine, within a 30-minute walking distance is a crucial factor in maintaining an individual's overall health in a society [35,36,37,38].

In various studies, the availability of government-supplied drinking water within a 30-minute walking distance [39], the presence of a toilet [40], and the availability of a mosquito net inside the house have been identified as crucial factors in maintaining an individual's overall health and well-being [41]. In this study, we construct a ten-item self-administered questionnaire to measure overall health as an assessment tool (THE SONARPUR MODEL), which closely resembles the Health

Practice Index (HPI) developed by Morimoto, which was used to assess the lifestyle of the people [42].

METHODOLOGY

This cross-sectional study, which comprised structured questions on overall self-care-related topics, socio-demographic variables, and oral health-related behaviours, was conducted among 48 study subjects aged 2–75 years who attended a CE-licensed, ISO 9001:2015 certified dental clinic in Sonarpur, West Bengal, India.

The data were collected using a specially designed written questionnaire format. Ethical clearance was obtained. Statistical analysis was conducted to determine the distribution of variables related to lifestyle, and the correlation between the determinants was assessed by evaluating the kappa value. Among the 48 participants, 20 did not return to the dental clinic for a second visit. Two of them missed the appointment but later reappeared at the clinic and were excluded from the study. One of them reported but did not want to participate in the study due to family issues.

The development of the "individual family member caregiver's care community health support" instrument/scale was based on a mixed-methods and multi-stage design process.

Specifically, the development of the questionnaire and the validation study were conducted in two stages. A pilot study has been done, followed by

Stage 1 consisted of the questionnaire development stage for face validation, and Stage 2 comprised the validation of the study, which included statistical analysis.

Following the methodological details of each stage, a qualitative questionnaire was used to explore and assess self- care measures, caregiver engagement, and the utilisation of community health support in self-healthcare, as outlined in the self-health engagement model.

After pilot testing, validation has been done up to face validity. As this scale/instrument first explored the patients and participants of Sonarpur area, a suburban area in the district of South 24 Parganas, West Bengal, the name "THE SONARPUR MODEL" has been given. In this study, participants from rural, urban, and suburban areas have been included. To address the research question of this study, this assessment may be utilised in the long run due to its multifaceted nature.

Sampling

For the qualitative stage of this study, a purposive sample of subjects was invited to participate in semi-structured qualitative interviews to examine and discuss their

experiences of self-care and their views and perspectives on their role and engagement in the healthcare process.

Inclusion criteria

1) have been assisted by a caregiver in case of a patient with activities of daily living and complex health care needs for at least 6 months [48];
2) aged from 2 years up to the whole life;
3) without cognitive impairment;
4) able to read, understand and speak English and/or Bengali and/or Nepali language.

We followed a maximum variety sample procedure by purposely selecting subjects from different strata (all data were collected from patients and their caregivers) with varying levels of illness burden, in order to include diverse experiences of self-care.

Recruitment procedure

The participants went through the basic information phase, the consent form fill-up phase, and the questionnaire fill-up phase, and were recruited based on the advice of a postgraduate dental surgeon (the Principal Investigator). Participants with diverse characteristics have been included in the study to ensure that individuals from various demographic backgrounds and socioeconomic strata are represented in the qualitative stage.

Data collection was conducted using the "ecological conceptual model" [49] of the psycho-social experience.

The participants were encouraged to share their feelings and experiences and to discuss the changes they had experienced in their roles and engagement with society. An interview schedule was arranged to allow participants to express themselves freely and clear up any doubts.

Moreover, during the assessment, all participants completed a closed-ended questionnaire, and the written responses were collected. In addition to these questions, the interviewer included specific add-on probes to facilitate the conversation and to deepen the experience. All participants were informed about the study's aim through the participants' information sheet, and their informed consent was obtained in their native language. All open-ended comments are transformed into closed-

ended comments (without altering the main value of the answer) and written in the questionnaire.

Example:

1. "A mosquito net is there in the house, but we do not use it."

   The answer will be "No"

2. "A separate toilet is present for our family in the house, but as this is a rented house, this is not legally our toilet." The answer will be "Yes".

Data collection ceased until saturation was reached.

Sampling and recruitment procedures

A convenience sample of over 700 participants was involved in the validation stage of this study. Item generation, content and face validity assessment were done by generating an item pool - originally formulated in the English language, later on the forms were translated into Bengali and Nepali languages, and each form was checked and corrected by three members (everyone can speak, read and write in their native languages). The first one is a class IV student, the second one is a graduate, and the third one is a college teacher (postgraduate teacher) who finally made the necessary corrections to this form to measure the construction of the relationship between different tools and self-care, as well as the interrelationship between overall self-care and caries. The item pool for overall selfcare (CARE) was reviewed for content and face validity according to the 'consensus-based standards for the selection of health measurement instruments' (COSMIN guidelines) [50] - by the project steering committee, and by including and excluding some units from the first stage, to check the content validity including the relevance and comprehensibility of the items, response options, instructions and the final ten items were refined by following the concept. With this notion in mind, we adopt Tabachnick & Fidell's strategy [51], recruiting 700 participants and ultimately establishing a minimum of 25 participants and their caregivers.

Data collection

This cross-sectional pilot study, comprising ten structured questions on overall self-care related topics, socio- demographic variables, and oral health-related behaviour, was conducted among 25 study subjects aged 2–75 years attending a licensed, ISO 9001-2015 certified dental clinic in Sonarpur, West Bengal. The data were recorded using a specially designed written questionnaire format. Statistical analysis was conducted to determine the distribution of variables related to lifestyle, and the correlation between the determinants was assessed by evaluating the kappa value.

The study subject population belongs to child (over 2 years who can consciously speak with understanding the situation) to older age (75 years), both genders, employed or unemployed, with or without education, any income, any socioeconomic status; high, moderate and poor lifestyles, for evaluation of their overall selfcare. All the social, personal, and family-related data were evaluated in the same subjects with the same datasheet, over a 15-day interval, and the statistical evaluation indicates that the data set or questionnaire set is statistically valid, with a kappa value (k) of '1' or 'close to 1'. Data collection took place in 2023-2024 through the administration of a structured questionnaire (included in the annexure), along with items on socio-demographics and dental disease status, which were evaluated in each case. The questionnaire was designed as a self-administered instrument, following standard protocols for questionnaire design and testing. Among 700 participants, 48 participants were randomly selected for this pilot study. Among the 48 participants, 20 did not return to the clinic for a second time. Two of them missed the appointment but reappeared at the clinic later and were excluded from the study. One of them reported but did not want to participate in the study due to family issues.

Although this study's original scale proposes five dimensions, we identified 10 key factors; therefore, the revised Scale for Care-recipient, the 'SONARPUR MODEL', has been conceptualised as a person's belief about their ability to organise and execute courses of action to manage given situations.

In all cases, both care-receptors/patient with diseases and care-givers experience was taken in front of them, to explain family member's ability to cope with chronic demands and challenges of caregiving as per Steffen and colleagues in 2002, in their 15-item Revised Scale for clinical and research settings of Caregiving Self-Efficacy scale [52].

Study design: This analysis was conducted to develop a universal tool for assessing the overall status of self-care and to utilise this novel tool to evaluate overall self-health.

Study Sample: The primary data were collected in conjunction with necessary free-cost treatment, obtained with informed consent. The randomly selected participants were evaluated at the same time interval in a

registered dental clinic, which was provided free of charge.

A total of 700 participants (aged 2-80 years) were recruited in 2024, and 441 participants, including children, participated. Forty-eight individuals were randomly selected, and the questionnaires were filled out by their parents or by the doctor after evaluating the participants' answers. The institutional review board of KIDS had approved the observational study, and all participants were provided with a patient information sheet and written informed consent or assent prior to data collection.

Theoretical model

The study is based on the development of a new tool to assess overall self-care by incorporating concepts from previously published studies. We investigated the influence of caregiver education level using a hypothesised causal model with three stages:

(1) The caregivers' care profile for the care recipient,

(2) Education level as an antecedent,

(3) Use of community-given or government-given facilities.

A 'caregiver and care receiver' questionnaire, written in English, Nepali, and Bengali at a 4th-grade reading level, was completed by the primary caregiver, the participant, or the doctor (in the case of a child). After the questionnaire was fabricated, face validation was conducted.

Ten closed-ended questionnaires, which are used for making the instrument/scale, are given below:

1. Caregivers spend more than 1 hour a day with the subject.
2. Regular monitoring of the education for a subject/educational discussion.
3. Regular monitoring of foods and beverages consumed by the subjects.
4. Whether 'parent of a child' or 'spouse of a married subject' or 'son/daughter/daughter-in-law of an elderly person is the caregiver.
5. Availability of emergency medicines within 30 minutes' walking distance.
6. Availability of government-supplied drinking water within 30 minutes' walking distance.
7. Availability of a toilet in the house.
8. Availability of a mosquito net in the house.
9. Availability of a thermometer within a 30-minute walking distance.
10. Availability of a blood pressure machine within a 30- minute walking distance.

RESULTS

Statistical Analysis:

Statistical Analysis was performed with the help of Epi Info (TM) 7.2.2.2. EPI INFO is a trademark of the Centres for Disease Control and Prevention (CDC). Descriptive statistical analysis was performed to determine the frequencies in numbers, along with their respective percentages. Cohen's kappa statistic, κ, was calculated to measure the agreement between two findings. $p<0.05$ was taken to be statistically significant. Table 1-11 denotes the results of the study.

Table 1: Agreement between the two findings of the age of the subjects

Age	First Measurement		Age	Second Measurement	
(years)	Number	%	(years)	Number	%
5	1	4.0%	5	1	4.0%
29	1	4.0%	29	1	4.0%
34	1	4.0%	34	1	4.0%
36	1	4.0%	36	1	4.0%
38	2	8.0%	38	2	8.0%
39	3	12.0 %	39	3	12.0%
41	1	4.0%	41	1	4.0%
42	1	4.0%	42	1	4.0%
49	2	8.0%	49	2	8.0%
52	2	8.0%	52	2	8.0%
54	3	12.0 %	54	3	12.0%
56	2	8.0%	56	2	8.0%
60	2	8.0%	60	2	8.0%
62	1	4.0%	62	1	4.0%
63	1	4.0%	63	1	4.0%
65	1	4.0%	65	1	4.0%
Total	25	100.0 %	Total	25	100.0%

Kappa (κ) value = 1.00. Thus, perfect agreement was found between the two measurements

Table 2: Agreement between the two findings of the gender of the subjects

Gender	First Measurement		Gender	Second Measurement	
	Number	%		Number	%
Male	14	56.0%	Male	14	56.0%
Female	11	44.0%	Female	11	44.0%
Total	25	100.0%	Total	25	100.0%

Kappa (κ) value = 1.00. Thus, perfect agreement was found between the two measurements

Table 3: Agreement between two findings related to the answers of caregivers spending more than 1 hour a day with the subject

Answer	First Measurement		Answer	Second Measurement	
	Number	%		Number	%
Yes	21	84.0%	Yes	22	88.0%
No	4	16.0%	No	3	12.0%
Total	25	100.0%	Total	25	100.0%

Kappa (κ) value = 0.86. Thus, almost perfect agreement was found between the two measurements

Table 4: Agreement between the two findings of answers related to regular monitoring of education for a subject/educational discussion

Answer	First Measurement		Answer	Second Measurement	
	Number	%		Number	%
Yes	18	72.0%	Yes	18	72.0%
No	7	28.0%	No	7	28.0%
Total	25	100.0%	Total	25	100.0%

Kappa (κ) value = 1.00. Thus, perfect agreement was found between the two measurements

Table 5: Agreement between two findings related to answers of regular monitoring regarding foods and beverages consumed by the subjects

Answer	First Measurement		Answer	Second Measurement	
	Number	%		Number	%
Yes	18	72.0%	Yes	18	72.0%
No	7	28.0%	No	7	28.0%
Total	25	100.0%	Total	25	100.0%

Kappa (κ) value = 1.00. Thus, perfect agreement was found between the two measurements

Table 6: Agreement between two findings of answers related to whether 'parent of a child' or 'spouse for a married subject' or 'son/daughter/daughter-in-law of an old-aged person' is the caregiver

Answer	First Measurement		Answer	Second Measurement	
	Number	%		Number	%
Yes	24	96.0%	Yes	24	96.0%
No	1	4.0%	No	1	4.0%
Total	25	100.0%	Total	25	100.0%

Kappa (κ) value = 1.00. Thus, perfect agreement was found between the two measurements

Table 7: Agreement between two findings of answers related to the availability of emergency medicines within 30 30-minute walking distance

Answer	First Measurement		Answer	Second Measurement	
	Number	%		Number	%
Yes	25	100.0%	Yes	25	100.0%
No	0	0.0%	No	0	0.0%
Total	25	100.0%	Total	25	100.0%

Kappa (κ) value = 1.00. Thus, perfect agreement was found between the two measurements

Table 8: Agreement between the two findings of answers related to the availability of government-supplied drinking water within 30 30-minute walking distance

Answer	First Measurement		Answer	Second Measurement	
	Number	%		Number	%
Yes	22	88.0 %	Yes	22	88.0%
No	3	12.0 %	No	3	12.0%
Total	25	100.0 %	Total	25	100.0 %

Kappa (κ) value = 1.00. Thus, perfect agreement was found between the two measurements.

Table 9: Agreement between the two findings of answers related to the availability of a toilet in the house

Answer	First Measurement		Answer	Second Measurement	
	Number	%		Number	%
Yes	25	100.0 %	Yes	25	100.0 %
No	0	0.0 %	No	0	0.0 %
Total	25	100.0 %	Total	25	100.0 %

Kappa (κ) value = 1.00. Thus, perfect agreement was found between the two measurements

Table 10: Agreement between the two findings of answers related to the availability of mosquito nets in the house

Answer	First Measurement		Answer	Second Measurement	
	Number	%		Number	%
Yes	23	92.0%	Yes	24	96.0%
No	2	8.0%	No	1	4.0%
Total	25	100.0%	Total	25	100.0%

Kappa (κ) value = 0.87. Thus, almost perfect agreement was found between the two measurements.

Table 11: Agreement between the two findings of answers related to the availability of a thermometer and a blood pressure machine within 30 minutes of walking distance.

Answer	First Measurement		Answer	Second Measurement	
	Number	%		Number	%
Yes	24	96.0 %	Yes	24	96.0 %
No	1	4.0 %	No	1	4.0 %
Total	25	100.0 %	Total	25	100.0%

Kappa (κ) value = 1.00. Thus, perfect agreement was found between the two measurements.

DISCUSSION

In 2012, in accordance with the literature published by the European Commission [43], approximately 60% of the 20.7 million dependent elderly individuals in the European Union (EU) received informal care, indicating that informal caregivers remain the most significant group of care providers. After six years, the statement remains the same, and informal care forms a cornerstone of all long-term care (LTC) systems in Europe, often seen as a cost-effective way to prevent institutionalisation and enable users to remain at home. The most recent LTC reform packages include important components focused on informal caregivers [44]. To combat those, Carman and his colleagues define family engagement as a process in which "patients, families, and their representatives will work as a whole, in an active partnership model at various levels of the health care system to improve health and health care" [45].

Brown and his colleagues, on the other hand, define caregiver engagement as the active partnership between health professionals and families that exists at different levels of the healthcare system, including direct care delivery, care system design, and service design [46]. Maurer and his colleagues, consider family engagement in a multiple level and regarded as a "set of behaviors by patients, family members, and health professionals and a set of organisational policies and procedures that foster both the inclusion of patients and family members as active members of the health care team and collaborative partnerships with providers and provider organisations".

Later on, they concluded that the care receiver individuals may be or may not be a patient. It is interesting to note that the caregivers themselves are the “great absent” in the discussion about caregiver engagement, and there are no foolproof studies involving caregivers in defining what engagement means for them [47].

Indeed, despite the growing consensus about the importance of sustaining the engagement of caregivers in healthcare, we neither find a clear conceptualisation of it, nor a validated psychometric tool to measure the family caregiver engagement experience and assessment of self-care rooted in the direct caregivers’ and/or care receiver’s perspective.

Currently, theories and psychometric measures exist to capture only specific aspects of the caring experience, such as the stressful consequences of being a family caregiver and the skills, attitudes, and knowledge required to participate actively in their loved ones’ care. For instance, a variety of instruments have been developed to measure the focus on caregiving associated with specific patients’ health conditions, and caregivers' roles are currently the main focus. Thus, there is a lack of a comprehensive understanding of the engagement experience and the balance between family caregivers and care recipients across various health conditions or diseases.

A cross-sectional healthcare measurement of care receptors (normal individuals living in society) with a psycho-social experience of active engagement in caring for their loved ones is currently lacking. Indeed, understanding the care receptor engagement experience across different age and gender groups, along with the impact of various types of caregiving, can be useful in optimising support or training dedicated to caregivers on this topic.

From a psycho-social perspective, we argue that understanding caregivers’ experiences, along with those of care recipients, their attitudes, and expectations towards the new “role of carer”, is fundamental in designing supports and initiatives aimed at sustaining them in their important caring role.

There is, however, a significant gap between what is known about the caregiver and the care recipient's experience and what is most likely to offer support. A better comprehension of the caregiver and care recipients' acquired expertise and ways to measure their engagement in the care process is needed. In order to fill the lacuna found in the literature on this topic, this study was devoted to hear the voices of family caregivers and care receptors-with their struggles, challenges, expectations, and motivation for persevering in their assistance role, as well as their preferences regarding education, resources, and supports that might enhance their engagement.

According to these premises, the present study aimed to develop a primary, compact validation of a tool to measure the care recipients' psychological, behavioural, social, environmental, and educational sense of being involved in the community.

This study also aims to investigate the collective impact of all potential unhealthy lifestyle factors on an individual's dental health. This approach to categorising lifestyles may prove helpful for assessing individual lifestyle practices in various studies.

Favourable health behaviours restrict the occurrence of various dental diseases, and exploring the broader concept of lifestyle would be useful in determining the correlation between dental diseases and lifestyle.

However, very few studies have considered the relationship between overall lifestyles, that is, the collective influence of all possible lifestyle-related risk factors on an individual's dental health.

To our knowledge, no previous studies in India have investigated whether overall lifestyle factors can influence the dental health status of the people to date.

Therefore, this study aimed to assess the impact of an individual's total lifestyle within a community and to determine the influence and association of these factors with self-care, ultimately developing appropriate oral health promotion strategies. The primary objective was to create a tool to assess an individual's overall self-care (CARE) and to determine the correlation of the collected data with a 15-day interval for validating the specially designed datasheet in a semi-urban population in West Bengal.

LIMITATIONS

The limitations of this research are as follows : First, the region and population of this research have great representation issues. Given that the sample size is only 25, the pilot stage of research hardly captures diversity, and issues are likely present in other parts of the region. The study was done in a particular semi-urban settlement of West Bengal. Therefore, the study is not easily generalizable to other regions of the world that have other socio-economic and cultural conditions. There are some aspects of the research that questionnaire bias is likely. Participants of the research answer questions during the research. Their answers to the questions, however, are not understood and interpreted by the participants aimed to answer the questions.

Furthermore, even though a 15 days interval was used in the study for the validation of the datasheet, it is quite likely not enough to detect the recurrent self-care behaviors. Finally, the investigation was mostly about the caregivers and the participants, with the analysis of the healthcare system and the self-care provider formal healthcare system neglected.

CONCLUSION

Participants' involvement in overall self-care, by promoting healthy habits, accepting community-aided assistance, and maintaining a balanced diet, leads to a generally good lifestyle. These factors, along with parental or caregiver care, judicious use of potable water, proper use of toilets, use of mosquito nets, and availability of a thermometer, emergency medicines, and a blood pressure machine in close proximity to the house, may help Participants' improve or protect their overall health, as well as their oral health for the future.

This face-validated and statistically significant 'Sonarpur Model' may be used as a measurement tool or an instrument for further studies. To the best of our knowledge, this study is the first to assess the overall self-care of an individual globally.

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AUTHOR CONTRIBUTIONS:

Partha Sarathi Biswas: Conceptualized the study, developed the research design, and oversaw the overall project. He was responsible for data analysis and interpretation, as well as drafting the manuscript.

Mohammad Jalaluddin: Assisted in the design and implementation of the study. Contributed to the development of the survey instrument, data collection, and analysis. Provided critical revisions to the manuscript.

Poulami Sarangi,: Led the data collection process and ensured the accuracy of the survey responses. She also contributed to the data analysis and assisted with the drafting and editing of the manuscript.

Somen Bagchi: Coordinated the research logistics, including participant recruitment and follow-up. Assisted with the data analysis and contributed to the manuscript's drafting and editing.

ABBREVIATIONS USED IN THE STUDY:

a) **CARE** - Refers to the self-care related topics covered in the questionnaire (the study assesses overall self-care).
b) **HPI** - Health Practice Index
c) **LTC** - Long-Term Care
d) **EPI INFO** - A statistical software (version 7.2.2.2) used for data analysis in the study.
e) **k** or **κ** - Cohen's Kappa (used for measuring agreement between findings).
f) **ISO** - International Organization for Standardization
g) **CDC** - Centers for Disease Control and Prevention

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