CROSS-CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTIONNAIRE

by

SOUGAT SUMAN SETHA

Dissertation submitted to the

ODISHA UNIVERSITY OF HEALTH SCIENCES, BHUBANESWAR, ODISHA

In Partial Fulfilment
of the requirements for the degree of

MASTER OF PHYSIOTHERAPY (MPT)

in

CARDIOPULMONARY SCIENCES

Under the Guidance of

Dr. Priyadarshini Mishra (PT)
Associate Professor

Co-Guide
Dr. JOYDIP SAHA (PT)
Associate Professor

ABHINAV BINDRA SPORTS MEDICINE AND RESEARCH INSTITUTE BHUBANESWAR, ODISHA
2023-2025

ODISHA UNIVERSITY OF HEALTH SCIENCES

DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation/thesis entitled "**CROSS CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTIONNAIRE"** is a bona fide and genuine research work carried out by me under the guidance of **Dr. Priyadarshini Mishra (PT), Associate Professor**, **ABSMARI. There** is no conflict of interest associated with this dissertation work.

Date:

Place: Bhubaneswar, Odisha

Signature:

Name: SOUGAT SUMAN SETHA

University Registration No. 23MP435002

CERTIFICATE BY THE GUIDE

This is to certify that the dissertation entitled **"CROSS-CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTIONNAIRE"** is a bona fide research work done by **Mr. Sougat Suman Setha** under my guidance in partial fulfilment of the requirements for the degree of **Master of Physiotherapy in Cardiopulmonary Sciences.**

Signature of Guide:

DR. PRIYADARSHINI MISHRA

DEPT. OF ELECTROTHERAPY AND ELECTRODIAGNOSIS

ASSOCIATE PROFESSOR

ABSMARI

Date:

Place: Bhubaneswar, Odisha

CERTIFICATE BY THE CO-GUIDE

This is to certify that the dissertation entitled **"CROSS-CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTIONNAIRE"** is a bona fide research work done by **Mr. Sougat Suman Setha** under my guidance in partial fulfilment of the requirements for the degree of **Master of Physiotherapy in Cardiopulmonary Sciences.**

Date:

Place: Bhubaneswar, Odisha

Signature of Co-Guide:

DR. JOYDIP SAHA
DEPT. OF MOVEMENT SCIENCES
ASSOCIATE PROFESSOR
ABSMARI

ENDORSEMENT BY THE HEAD OF DEPARTMENT

This is to certify that the dissertation entitled **"CROSS-CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTIONNAIRE"** is a bona fide research work done by **Mr. Sougat Suman Setha** under the guidance of **Dr. Priyadarshini Mishra (PT), Associate Professor, ABSMARI.**

Signature of HOD:

DR. SWATI PARIJA (PT)

HEAD OF DEPARTMENT

DEPT. OF PHYSIOTHERAPY IN CARDIOPULMONARY SCIENCES

ABSMARI

Date:

Place: Bhubaneswar, Odisha

ENDORSEMENT BY THE PRINCIPAL

This is to certify that the dissertation entitled **"CROSS-CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTIONNAIRE"** is a bona fide research work done by **Mr. Sougat Suman Setha** under the guidance of **Dr. Priyadarshini Mishra (PT), Associate Professor, ABSMARI.**

Date:

Place: Bhubaneswar

Signature:
DR. CHINMAY KUMAR PATRA
PRINCIPAL
ABSMARI

ODISHA UNIVERSITY OF HEALTH SCIENCES

CERTIFICATE OF ACCEPTANCE

This is to certify that the dissertation entitled "**CROSS-CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTIONNAIRE**" carried out by **Mr. SOUGAT SUMAN SETHA**, bearing University Registration Number 23MP435002, has been evaluated and accepted by me as an **Examiner / Evaluator**, appointed by the **Odisha University of Health Sciences, Bhubaneswar**, in partial fulfilment of the requirements for the award of the degree of **Master of Physiotherapy (MPT) in Cardiopulmonary Sciences**.

Date:

Place: Bhubaneswar

Signature of the Examiner:
NAME:
Institution:
Designation:

COPYRIGHT

DECLARATION BY THE CANDIDATE

I, Sougat Suman Setha of Abhinav Bindra Sports Medicine and Research Institute, Bhubaneswar, Odisha, hereby declare that the Odisha University of Health Sciences and Abhinav Bindra Sports Medicine and Research Institute, Bhubaneswar, Odisha shall have the rights to preserve, use and disseminate this dissertation/ thesis in print or electronic format for academic/ research purposes.

Date:

Place: Bhubaneswar

Signature:

Name: SOUGAT SUMAN SETHA

ACKNOWLEDGEMENT

I want to express my heartfelt gratitude to the Almighty, my family, and friends for their unwavering encouragement, understanding, and love. Their support has been a constant source of strength throughout this academic journey.

I extend my sincere appreciation to the management and administration of Abhinav Bindra Sports Medicine and Research Institute, Bhubaneshwar, and all those who have supported and guided me during the course of this dissertation. Without their valuable contributions, this work would not have been possible.

I am also immensely grateful to Dr. Chinmaya Kumar Patra (PT), the Principal, Abhinav Bindra Sports Medicine and Research Institute, Bhubaneshwar. Your constant encouragement and belief in my abilities have been a source of motivation and confidence.

I wish to express my deepest gratitude to my dissertation Guide, Dr. Priyadarshini Mishra (PT), Associate Professor, and Co-guide, Dr. Joydip Saha (PT), Associate Professor, ABSMARI, Bhubaneshwar. Your unwavering support, expert guidance, and insightful feedback have been instrumental in shaping this research. Your dedication to academic excellence has inspired me to strive for higher goals in my scholarly pursuits.

My sincere appreciation goes to Dr. Swati Parija, Head of Department, for her invaluable support, scholarly guidance, and motivation throughout the completion of this work.

My sincere thanks are also due to Dr. Aparna Pattnaik (PT), whose valuable input and initial idea served as the foundation upon which this work was developed.

Finally, I would like to acknowledge the constant encouragement and companionship of my dear friends – Poonam, Shivansh & Rakshi. Their help, support, motivation, and presence have made this journey more fulfilling and memorable.

Date:

Place: Bhubaneswar

Signature:

Name: SOUGAT SUMAN SETHA

LIST OF ABBREVIATIONS USED

ABSMARI: Abhinav Bindra Sports Medicine and Research Institute

CAT: COPD Assessment Test

CCQ: Clinical COPD Questionnaire

CCQ-ODA: Developed Odia version of Clinical COPD

COPD: Chronic Obstructive Pulmonary Disease

CRQ: Chronic Respiratory Disease Questionnaire

CTRI: Clinical Trials Registry - India

CVI: Content Validity Index

ICC: Intraclass Correlation Coefficient

I-CVI: Item Level Content Validity Index

IEC: Institutional Ethics Committee

MCID: Minimal Clinically Important Difference

MID: Minimal Important Difference

MLHF-Q: Minnesota Living with Heart Failure Questionnaire

mMRC: Modified Medical Research Council (Dyspnea Scale)

PRO: Patient Reported Outcome

PROM: Patient Reported Outcome Measure

QoL: Quality of Life

S-CVI: Scale Level Content Validity Index

SGRQ: St. George's Respiratory Questionnaire

ABSTRACT

Background: The Clinical COPD Questionnaire (CCQ) is a well-validated, self-administered questionnaire used in assessing health status in patients with chronic obstructive pulmonary disease (COPD), including symptoms, functional impairment, and psychological state. Although highly cross-culturally adapted, no Odia version of the questionnaire is available for use among the regional population in Odisha, India. The main aim of the study was to translate and validate an Odia version of the Clinical COPD Questionnaire for this population.

Methods: The CCQ was translated into Odia in a standardised forward and backward manner, with review by an expert panel to maintain conceptual and linguistic equivalence. Content validity was determined through expert judgement and scoring of the Content Validity Index (CVI). Pilot testing was also performed on a sample of 15 patients to assess the psychometric properties and usability of the translated tool.

Results: Content validity assessment showed exemplary outcomes where both item-level and scale-level content validity indices scored a perfect 1.00, indicating unanimous expert agreement on item clarity, relevance, and cultural appropriateness. Pilot testing ratified the feasibility and acceptability of the Odia version (CCQ-ODA) among the target group, with no considerable problem occurring during administration.

Conclusion: The CCQ-ODA has good content validity and is a culturally validated tool for measuring health-related quality of life in Odia-speaking patients with COPD. The pilot testing success warrants its potential value for both clinical diagnosis and research use in this regional population, justifying larger sample validation studies.

Keywords: COPD; Health Related Quality of life; Health Status; Surveys and Questionnaires

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF GRAPHS

INTRODUCTION

INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is a widespread, persistent respiratory disease characterised by chronic symptoms and irreversible airflow limitation, usually secondary to structural airway and alveolar alterations after years of exposure to noxious particles and gases (e.g., tobacco smoke, biomass fuel, ambient pollutants) [1][2]. Typical clinical features include chronic cough, sputum production, exertional dyspnea, and episodes of acute exacerbation, which tend to worsen over time and substantially impair functional capacity, independence, and health-related quality of life [3]. Beyond the pulmonary system, COPD is associated with systemic inflammation, skeletal muscle dysfunction, cardiovascular comorbidities, anxiety, and depression, all of which compound morbidity and increase the risk of hospitalisation and mortality [2]. Early recognition and standardised assessment are therefore crucial to guide comprehensive management, including smoking cessation, pharmacotherapy, vaccination, pulmonary rehabilitation, and targeted risk reduction [1][2].

Globally, COPD represents one of the most pressing noncommunicable diseases, imposing a heavy clinical and socioeconomic burden on patients, health systems, and societies. Recent modelling suggests that approximately 480 million people were living with COPD in 2020, with the total number projected to approach 600 million by 2050, driven largely by population growth, ageing, and persistent exposure to key risk factors in many regions [4]. COPD remains the third leading cause of death, responsible for millions of deaths annually, and disproportionately affects low- and middle-income countries where structural determinants of health, environmental exposures, and healthcare access barriers are most pronounced [1][4][5]. The Global Initiative for Chronic Obstructive Lung Disease emphasises the centrality of risk-factor control—particularly tobacco control, reduction of household air pollution from biomass, and mitigation of

ambient particulate matter—as pillars of primary and secondary prevention [2]. In this context, strengthening surveillance, widening spirometry availability, and integrating rehabilitation services into routine care are essential to curb the rising absolute number of cases despite potential declines in age-standardised rates in some regions [1][2][4].

India exemplifies this challenge. A systematic review and meta-analysis of spirometry-based studies estimated a national COPD prevalence of approximately 7.4%, with significantly higher rates reported among men, urban residents, and populations in northern states [6]. These gradients mirror sex-specific smoking patterns, urban ambient air pollution, and climatic or environmental factors, while also reflecting variation in diagnostic access and awareness. Underdiagnosis remains substantial due to limited availability of quality-assured spirometry, stigma, symptom normalisation, and fragmented care pathways, contributing to late-stage presentation and recurrent exacerbations [2]. Within India, regional heterogeneity further underscores the need for context-sensitive strategies. In Odisha, extensive cooking using biomass fuels, surplus tobacco exposure, and chronic indoor and outdoor air pollution contribute to symptom burden and compromised health-related quality of life among people with COPD, and thus are the target of focused preventive and rehabilitative interventions [7]. Addressing the causes implies coordinated policies for clean household energy transitions, tobacco control, occupational protection, environmental regulation, and equitable access to primary care, diagnostics, and pulmonary rehabilitation [1][2].

Assessment of disease impact from the patient's point of view is at the heart of individualised COPD management. Patient-reported outcome measures (PROMs) quantify symptoms, functional impairment, and psychosocial impact, which are not entirely captured by spirometry or clinical assessment. Some of the most common PROMs used include the St. George's Respiratory Questionnaire (SGRQ), COPD

Assessment Test (CAT), and Clinical COPD Questionnaire (CCQ) [8]. The SGRQ gives a global assessment across symptoms, activity, and impacts, and has shown prognostic utility for exacerbations, hospitalisation, and mortality in large databases [9]. CAT, an eight-question measure, provides a shorter, more practical option with high correlations to SGRQ, allowing speedy routine monitoring and aiding shared decision-making in over-burdened clinics [8]. In concert, these instruments aid clinicians and researchers in measuring burden, monitoring change across time, and assessing the efficacy of interventions.

The Clinical COPD Questionnaire (CCQ) is a concise, ten-item instrument that assesses three domains—symptoms, functional state, and mental state—over the preceding week, using a seven-point scale in which higher scores reflect greater disease burden [10]. Its development emphasised clinical interpretability, responsiveness to change, and ease of use in routine practice and research. Subsequent evaluations have confirmed robust psychometric properties, including construct validity, internal consistency, test–retest reliability, responsiveness to clinical change, and meaningful minimal clinically important differences [11]. Because it integrates symptom severity with functional and emotional dimensions, the CCQ supports holistic assessment, aids treatment tailoring, and complements physiological measures to provide a more comprehensive picture of disease impact [10][11].

Reflecting its clinical utility and feasibility, the CCQ has been translated and culturally adapted into multiple languages and settings, with measurement properties examined across diverse populations. Validations include the Brazilian (interview-administered) version showing strong reliability and validity [12], the Italian version confirming psychometric adequacy [13], the Persian version demonstrating acceptable reliability and validity [14], the Taiwanese (Chinese) version with established validity [15], and the

Turkish version showing satisfactory measurement performance [16]. Within India, regional language efforts have begun to address linguistic diversity, including Kannada linguistic validation and psychometric evaluation of a Bengali version, which support feasibility and reliability in those contexts [17][18]. This growing body of cross-cultural work underscores the instrument's adaptability while highlighting the importance of rigorous methodology to preserve conceptual equivalence.

For Odia-speaking populations, formal translation and cross-cultural adaptation of the CCQ are essential to ensure semantic, idiomatic, experiential, and conceptual equivalence. Direct translation without methodological safeguards risks construct drift, misinterpretation, and measurement bias that can undermine clinical decision-making and research validity [19]. Best-practice frameworks recommend a multi-step process comprising forward translation by bilingual experts, synthesis, back-translation, expert committee review, cognitive debriefing in target users, and iterative refinement to resolve discrepancies and enhance clarity [20][21]. This process not only supports linguistic accuracy but also ensures cultural relevance of items and response options, preserving the latent constructs underpinning the CCQ's domains [19][20]. Subsequent psychometric evaluation—examining reliability, validity, responsiveness, and interpretability—confirms that the adapted version performs comparably to the source instrument and is suitable for clinical and research use in the Odia context [10][11].

In sum, COPD's escalating absolute burden globally and in India, coupled with pronounced regional and socioeconomic disparities, demands integrated strategies spanning risk reduction, early diagnosis, and rehabilitative care [1][2][4][6]. PROMs are central to this effort, with the CCQ offering a pragmatic and psychometrically sound option to capture symptom severity, functional limitation, and mental well-being in everyday practice [10][11]. Developing a rigorously translated and culturally adapted Odia

version of the CCQ will enable precise, patient-centred assessment for a large, underserved population, thereby supporting equitable care pathways, high-quality research, and health system planning in Odisha and beyond [19][20][21].

AIM & OBJECTIVES

AIM AND OBJECTIVE OF THE STUDY

AIM

The study aims to translate, culturally validate, and determine the psychometric properties of the Odia Clinical COPD Questionnaire (CCQ-ODA) to present a valid and reliable patient-reported outcome tool for the measurement of health status and quality of life among patients with chronic obstructive pulmonary disease (COPD) who speak Odia as their native language.

OBJECTIVES

1. To conduct a systematic translation and cross-cultural adaptation of the original English Clinical COPD Questionnaire to the Odia language through a standard forward-backwards translation procedure.
2. To assess the content validity of the Odia version through expert panel reviews to establish the Content Validity Index (CVI) at the item level (I-CVI) and the scale level (S-CVI).
3. To perform an initial psychometric assessment by pilot testing on a representative sample of Odia-speaking patients with COPD using a measurement of internal consistency by Cronbach's alpha, computation of Intraclass Correlation Coefficient (ICC), and agreement analysis using Bland-Altman plots.

REVIEW OF LITERATURE

1. **Unveiling the burden of COPD: perspectives on a patient-reported outcome measure to support communication in outpatient consultations—an interview study among patients, 2024, Gronhaug LM et al.**
   This qualitative interview study in Denmark explored how patients with moderate to very severe COPD perceived the usefulness of a holistic Patient-Reported Outcome Measure for general palliative care (PRO-Pall). Nine patients participated and reported that completing PRO-Pall before consultations stimulated self-reflection and helped them unmask psychosocial concerns often overlooked. During consultations, healthcare professionals used PRO-Pall responses to initiate discussions on sensitive issues, thereby deepening dialogue and improving patients' understanding of their multifaceted burden. The study highlights that holistic PROMs can facilitate person-centred communication in COPD outpatient care.
2. **Comparison of CCQ, CAT score & BODE index in assessing severity and exacerbations of COPD - a comprehensive study, 2025, Dr. K P Jeswanth Kiran et al.**
   Chronic Obstructive Pulmonary Disease (COPD) is a leading cause of morbidity and mortality worldwide. This study conducted a cross-sectional analysis of 60 COPD patients to compare the Clinical COPD Questionnaire (CCQ), COPD Assessment Test (CAT), and BODE index in evaluating disease severity and exacerbations. Results showed strong positive correlations among CCQ, CAT, and BODE index scores, all significantly associated with spirometric severity, indicating these tools are effective in assessing COPD severity beyond spirometry alone.

3. **The cutoff point of the clinical chronic obstructive pulmonary disease questionnaire for more symptomatic patients, 2018, Yong Suk Jo et al.**
   This prospective study of 126 Korean COPD patients evaluated the Clinical COPD Questionnaire (CCQ) against the St. George's Respiratory Questionnaire (SGRQ) to determine an optimal CCQ cutoff for defining more symptomatic patients. Results showed CCQ strongly correlated with SGRQ, CAT, and mMRC scores, and a CCQ cutoff of 1.4 best predicted SGRQ ≥25, providing a more precise threshold for identifying patients with significant symptom burden compared to the guideline-suggested cutoff of 1.0.
4. **Evaluating the Clinical COPD Questionnaire: A systematic review, 2017, Zijing Zhou et al.**
   This systematic review synthesised 43 studies evaluating the reliability, validity, responsiveness, and minimal clinically important difference (MCID) of the Clinical COPD Questionnaire (CCQ) in COPD patients. The review found the CCQ to have good internal consistency, test-retest reliability, correlation with other health questionnaires (like SGRQ and CAT), and responsiveness to clinical changes such as exacerbations and pulmonary rehabilitation. The MCID for CCQ was identified as 0.4, affirming the CCQ as a practical and valid tool for assessing health status in COPD.
5. **Clinical COPD Questionnaire in patients with chronic respiratory disease, 2014, Canavan JL et al.**
   This 2014 UK study evaluated the responsiveness of the CCQ in 138 patients with chronic respiratory diseases (not limited to COPD) undergoing pulmonary rehabilitation. CCQ scores significantly improved post-rehabilitation, and changes correlated well with other health-related quality of life instruments like

CAT, CRQ, and SGRQ. The minimum important difference (MID) was estimated at ~0.4 points at the individual and population levels. The study supports the CCQ as a responsive, practical tool for measuring health status changes in chronic respiratory disease, including non-COPD conditions.

6. **Health status during hospitalisations for chronic obstructive pulmonary disease exacerbations: the validity of the Clinical COPD Questionnaire, 2014, Antoniu SA et al.**

   In this Romanian prospective study of 80 hospitalised COPD exacerbation patients, the Clinical COPD Questionnaire (CCQ) showed good validity, internal consistency (Cronbach's alpha up to 0.9), test-retest reliability (ICC up to 0.95), and responsiveness over the hospitalisation period. CCQ scores correlated well with other health and symptom scales and discriminated between patients with longer vs shorter hospital stays. The study concludes that CCQ is a valid and useful tool for assessing health status dynamics during severe COPD exacerbations requiring hospitalisation.

7. **Health status in patients with coexistent COPD and heart failure: a validation and comparison between the Clinical COPD Questionnaire and the Minnesota Living with Heart Failure Questionnaire, 2014, Berkhof FF et al.**

   This Dutch study compared the CCQ and Minnesota Living with Heart Failure Questionnaire (MLHF-Q) in 58 patients with coexistent COPD and heart failure. Both questionnaires demonstrated acceptable construct validity, internal consistency (Cronbach's alpha >0.7), and test-retest reliability (ICCs generally >0.7), except the CCQ symptom score showed lower reliability (ICC=0.42). Agreement was acceptable on the group level but limited on the individual level.

The study suggests both CCQ and MLHF-Q are valid and reliable for group-level evaluation, but highlights the need for a combined questionnaire with strong evaluative properties for individual patients with both diseases.

8. **Assessing health status in COPD: A head-to-head comparison between the COPD Assessment Test (CAT) and the Clinical COPD Questionnaire (CCQ), 2012, Tsiligianni IG et al.**

   In this 2012 study of 90 COPD patients in Greece, the researchers compared the psychometric properties and patient preferences of the CAT and CCQ questionnaires against the St. George Respiratory Questionnaire (SGRQ). Both CAT and CCQ had high internal consistency (Cronbach's alpha ~0.86-0.89), were reliable, and correlated significantly with SGRQ, although CCQ showed a slightly stronger correlation. Patients found both easier to complete than SGRQ and preferred CCQ for better reflection of their health status, mainly due to its detailed respiratory symptom assessment. The study concluded CCQ and CAT are valid, reliable tools for COPD health status assessment, with a slight patient preference for CCQ.

9. **Validation of the Clinical COPD Questionnaire (CCQ) in primary care, 2009, Björn Ställberg et al.**

   This prospective multicenter study validated the CCQ in 111 patients diagnosed with COPD in primary care settings. The CCQ showed strong correlations with the St. George's Respiratory Questionnaire (SGRQ) and demonstrated good internal consistency and reliability at the group level. However, its test-retest reliability was lower than SGRQ, suggesting CCQ is suitable for group assessments but may be less sensitive for individual patient monitoring in routine practice.

10. **Health status measurement in COPD: the minimal clinically important difference of the clinical COPD questionnaire, 2006, Kocks JWH et al.**
This Dutch study determined the minimal clinically important difference (MCID) of the Clinical COPD Questionnaire (CCQ) using multiple approaches in 210 patients hospitalised for COPD exacerbations. The MCID was approximately 0.4 points, consistent across patient-referencing via Global Rating of Change, criterion referencing with 1-year health outcomes, and standard error of measurement calculations. The study supports that a change of≥0.4 in CCQ total score represents a clinically meaningful difference in COPD health status.
11. **Brazilian version of the Clinical COPD Questionnaire, administered by interview: reliability and validity measurement properties, 2021: Alexânia de Rê et al.**
This study tested the reliability, validity, and measurement properties of the Brazilian version of the Clinical COPD Questionnaire (CCQ) administered by interview in 50 COPD patients. The CCQ showed high internal consistency (Cronbach's alpha 0.93), excellent interrater (ICC = 0.97) and test-retest reliability (ICC = 0.92), and strong positive correlations with the Saint George's Respiratory Questionnaire (SGRQ) scores ($r \geq 0.70$). The CCQ was found to be reliable and valid, without floor or ceiling effects, and suitable for clinical use in Brazil.
12. **A study on the validity and reliability of the Turkish version of Clinical COPD Questionnaire, 2019: Betul Taspinar et al.**
This study assessed the validity and reliability of the Turkish CCQ in 100 COPD patients. Internal consistency was good (Cronbach's alpha ~0.90), and test-

retest reliability was excellent (ICC total score = 0.97). The Turkish CCQ significantly correlated with SF-36, mMRC dyspnea scale, and respiratory function tests. The questionnaire was concluded to be reliable, valid, and suitable for clinical use in Turkish COPD patients.

13. **Cross-Cultural Adaptation, Reliability and Validity Study of the Persian Version of the Clinical COPD Questionnaire, 2016: Neda Hasanpour et al.**

    This study conducted forward-backwards translation and validated the Persian CCQ in 100 COPD patients and 50 healthy subjects. Internal consistency was very high (Cronbach's alpha 0.94–0.98 across domains), and test-retest reliability was excellent (ICC 0.94–0.98). The Persian CCQ showed strong construct validity via correlations with the Persian St George's Respiratory Questionnaire (r = 0.94). Factor analysis supported a three-factor structure. The PCCQ was found to be a reliable and valid instrument for assessing health-related quality of life in Iranian COPD patients.

14. **Linguistic Validation of Clinical COPD Questionnaire (CCQ) in an Indian Regional Language (Kannada), 2016: Shaswat Verma and Veena Kiran Nambiar**

    This study carried out the linguistic validation of the CCQ into Kannada using a forward-backwards translation process and pilot testing in 10 COPD patients. Minor wording modifications improved comprehension for the Kannada-speaking population. The Kannada CCQ showed good agreement with the English version, supporting its use as an easy-to-administer, patient-friendly instrument for assessing symptoms, functional state, and mental state in COPD patients in clinical practice.

15. **Smoking cessation can improve quality of life among COPD patients: Validation of the clinical COPD questionnaire into Greek, 2011: George Papadopoulos et al.**

The Greek version of the CCQ was validated in 93 COPD patients and 55 healthy subjects. The CCQ showed high internal validity (Cronbach's alpha 0.92) and excellent test-retest reliability (ICC = 0.99). CCQ scores correlated with lung function and SF-12 health survey scores. Importantly, in 26 COPD patients who successfully quit smoking, significant improvements in CCQ scores and quality of life were demonstrated after two months, supporting CCQ's responsiveness and highlighting smoking cessation's benefits for COPD patients.

METHODOLOGY
&
PROCEDURE

METHODOLOGY & PROCEDURE

Study Design: This non-interventional, cross-sectional validation study used a multi-faceted approach, including standardised translation procedures and validity testing.

Study Setting: It was conducted at Abhinav Bindra Sports Medicine and Research Institute, Bhubaneshwar, Odisha. Institutional Ethics Committee approved the protocol before initiation (Ref. No. ABSMARI/IEC/2025/178 Protocol ID: ABS-IEC-2025-PHY-079 dated on 26-04-2025) (CTRI NO. CTRI/2025/09/094633).

Questionnaire translation stages

The translation and cross-cultural adaptation of the Clinical COPD Questionnaire (CCQ) into Odia followed standardised forward-backwards translation guidelines as recommended in recent literature [22].

1. **Forward Translation**
   - A committee of experts consisting of a public health professional, pulmonologists, physiotherapists and linguistic specialists was constituted. Two native speakers of Odia, one pulmonologist and one linguistic specialist, each developed an independent translation of the English CCQ (T1 and T2).
2. **Translation Synthesis**
   - The two translators next prepared a single consensus version of the translation (S12), which the expert committee checked and validated.
3. **Back Translation**
   - Two English-speaking translators, one being a pulmonologist (T3) and the other a linguistic specialist (T4), who had not viewed the

original English CCQ, translated independently the Odia consensus version (S12) back into English. They next agreed on this back-translated version.

4. **Harmonisation**
   - The committee went through all the translations (T1, T2, S12, T3, and T4) for accuracy and consistency. Upon careful examination, a pre-final version of the CCQ-ODA was prepared to undergo field testing.
5. **Pre-testing and Face Validation**
   - This pre-final version was tested on ten randomly selected patients at a hospital's outpatient clinic. The goal was to assess the clarity, layout, language, ease of use, and comprehensibility of the questionnaire. As no difficulties were reported, the questionnaire was returned to the expert committee for review and approval.
6. **Committee Appraisal**
   - In light of the feedback obtained during the face validation process, the expert committee finalised the Odia version of the CCQ and subsequently proceeded to the pilot testing stage.
7. **Field Testing and Validation**
   - INCLUSION CRITERIA: Age between 18 – 70 years of age, Able to read & understand vernacular Odia
   - EXCLUSION CRITERIA: Not able to read or understand Odia, Patients affected with Respiratory Conditions other than COPD, such as Patients with chronic respiratory failure, psychiatric disorders, pregnancy and lactation, uncontrolled systemic illnesses

or life-threatening infections, vital organ failure, and those with substance abuse and/or dependence were excluded from the study.

The entire process, from forward translation to pilot testing, is illustrated in the flowchart shown in **Figure 1.1.**

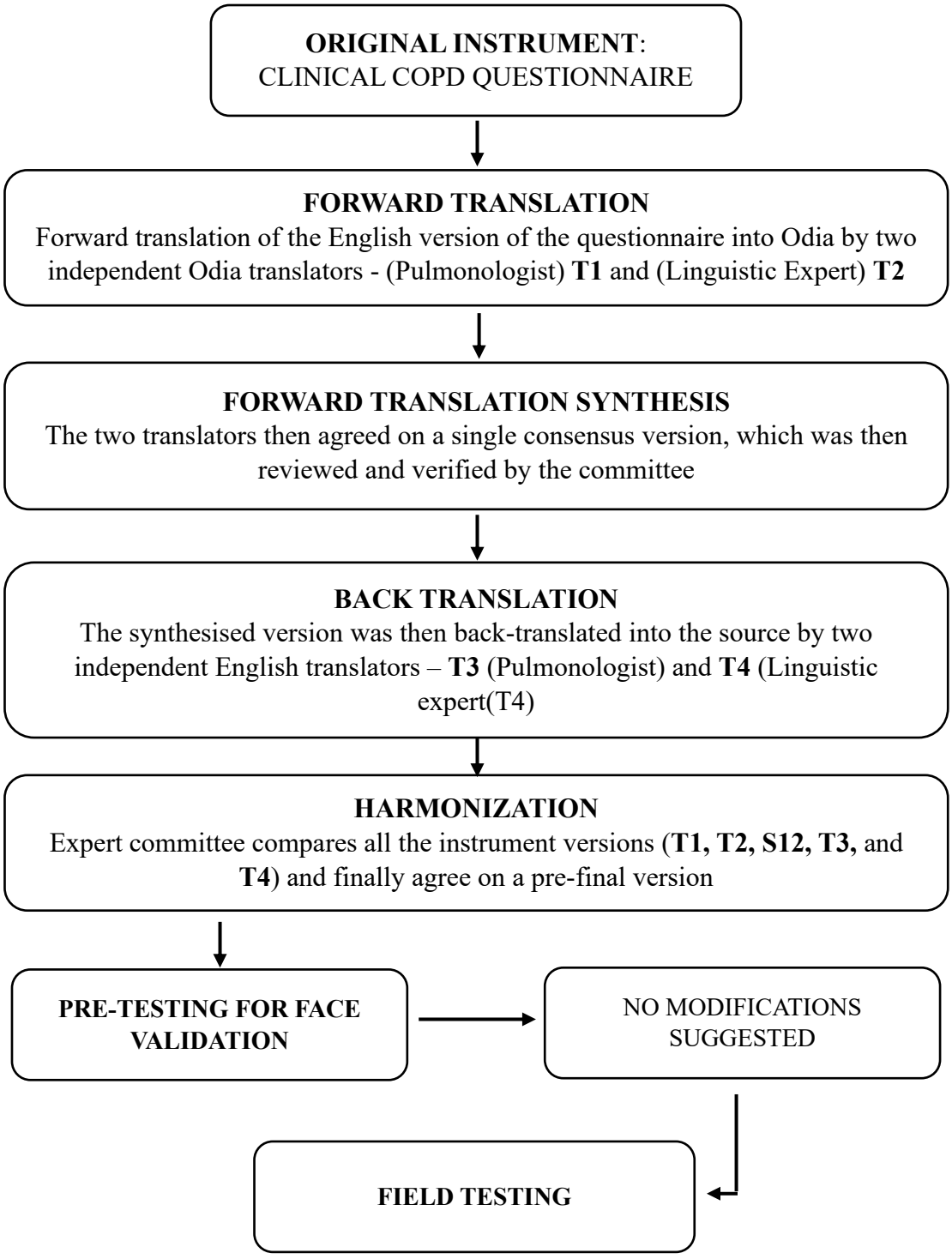


FIGURE 1.1: STUDY FLOW

STATISTICAL ANALYSIS

STATISTICAL ANALYSIS

Statistical examination was conducted to assess the validity and reliability of the Odia version of the Clinical COPD Questionnaire (CCQ-ODA). Content validity was ascertained using the Content Validity Index (CVI), which was derived from expert ratings of relevance, clarity, and simplicity of every item, and a CVI of 0.78 or more was taken as acceptable. Internal consistency reliability was measured by Cronbach's alpha to yield an index of item homogeneity in the scale. Test–retest reliability was tested through the administration of the questionnaire on two occasions to the same participants after a one-week gap, and the reliability of responses over time was measured by the Intraclass Correlation Coefficient (ICC), with values above 0.75 interpreted as evidence of good reliability. In addition to investigating stability, a paired t-test was undertaken in order to compare the mean test and retest scores in an effort to determine if there were any significant differences between the two administrations. Additionally, Bland–Altman plots were generated to provide a graphical representation of agreement between the test and retest scores, highlighting any systematic bias and limits of agreement. All statistical analyses were carried out using appropriate software, and the level of statistical significance was set at $p < 0.05$.

SAMPLING

Patients diagnosed with COPD who attended the hospital outpatient department on the designated days of data collection were recruited using consecutive sampling and invited to participate in the study. Pilot testing of the Odia version of the Clinical COPD Questionnaire (CCQ-ODA) was conducted on a sample of 15 participants representative of the target population. The pilot aimed to evaluate the clarity, cultural relevance, and comprehensibility of the questionnaire items. To assess the reliability of the CCQ-ODA, a test-retest approach was employed; the 15 participants completed the

questionnaire twice, with a one-week interval between administrations. In the test-retest reliability analysis via Intraclass Correlation Coefficient (ICC), only patients who experienced no alterations in their current treatment or new treatments during the time interval were used.

RESULTS

RESULTS

CONTENT VALIDITY

Content validity was thoroughly assessed through the Content Validity Index (CVI) method. Expert panel review yielded a mean Item-level Content Validity Index (I-CVI) rating of 1.00 per item of each questionnaire, which reflects unanimous expert agreement on the relevance, clarity, and appropriateness of all items. The Scale-level Content Validity Index (S-CVI) was 1.00, indicating that the whole questionnaire fully captures the COPD-related quality of life construct among the target population (TABLE 1.0).

These findings overall suggest that the Odia version of the Clinical COPD Questionnaire is a possession with first-class psychometric characteristics, having very high content validity, which makes it an extremely appropriate tool for the measurement of COPD-related quality of life among Odia-speaking individuals.

PARTICIPANT DEMOGRAPHICS

A pilot test was conducted on a total of 15 participants for this validation study. The mean age of participants was 49 years. The sample comprised 7 females (46.7%) and 8 males (53.3%) (GRAPH 1.1), providing a relatively balanced gender distribution along with level of education (GRAPH 1.2) for the assessment of the Odia version of the Clinical COPD Questionnaire (TABLE 2.0).

Internal Consistency: The internal consistency of CCQ-ODA was tested using Cronbach's alpha. The test indicated an outstanding internal consistency with Cronbach's alpha = 0.99, reflecting outstanding homogeneity among the items of the questionnaire and proving that all items measure consistently the same underlying construct. (TABLE 3.0)

Inter-rater Reliability and Test-Retest Reliability: Test-retest reliability was examined with the use of two testers having similar education and clinical experience who separately administered the questionnaire twice to a comparable group of participants. Intraclass Correlation Coefficient (ICC) proved excellent test-retest reliability with 0.98, showing almost-perfect consistency across time. (TABLE 3.0)

To further test the agreement between the two administrations, a paired t-test was done comparing the total scores from each tester. The results showed no statistically significant difference between the total scores ($p = 0.43$), validating the reproducibility and stability of the questionnaire between administrations.

Bland-Altman plot analysis was conducted to visually examine test-retest agreement. The plot revealed excellent agreement between the two points in time, with data points congregating around the mean difference line and lying within the limits of agreement, confirming the CCQ-ODA's reliability. (FIGURE 2.1)

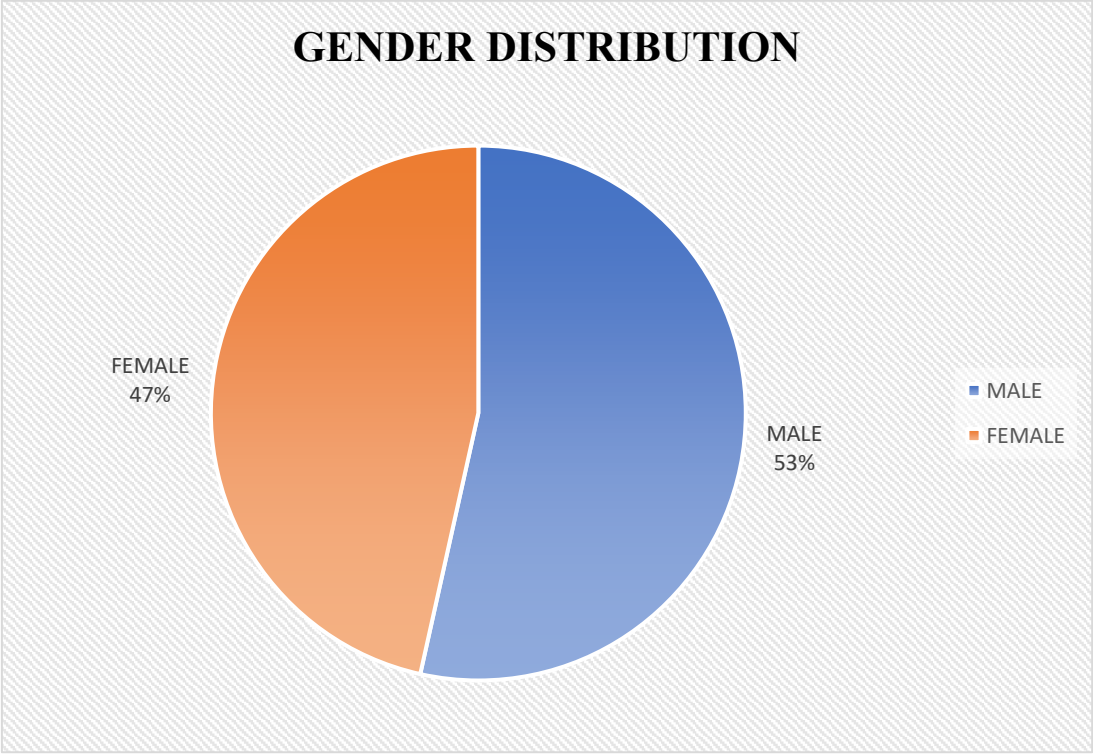
TABLE 1.0: RELEVANCE RATING OF 10 ITEMS IN THE TOOL BY 5 EXPERTS FOR CONTENT OF THE ITEM AND QUALITY OF THE ITEM

ITEMS	E 1	E 2	E 3	E 4	E 5	EXPERT IN AGREEMENT	I-CVI	UA
Q 1	1	1	1	1	1	5	1	1
Q 2	1	1	1	1	1	5	1	1
Q 3	1	1	1	1	1	5	1	1
Q 4	1	1	1	1	1	5	1	1
Q 5	1	1	1	1	1	5	1	1
Q 6	1	1	1	1	1	5	1	1
Q 7	1	1	1	1	1	5	1	1
Q 8	1	1	1	1	1	5	1	1
Q 9	1	1	1	1	1	5	1	1
Q 10	1	1	1	1	1	5	1	1
						S-CVI/AVG	1	
N.B.S **1 - 2 is considered 0** **3 - 4 is considered 1**						S-CVI/UA	1	

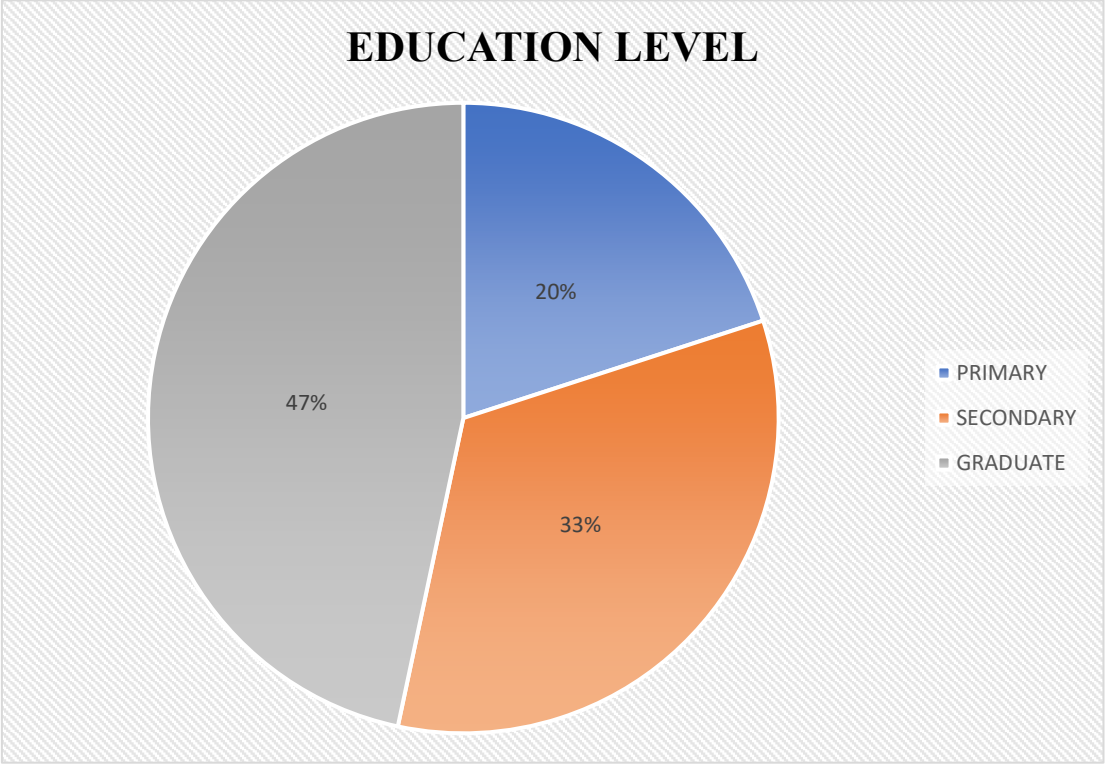
The table defines the ratings provided by five experts utilising the Content Validity Index (CVI) scale. This scale comprises four points, where a score of 1 denotes "Not Relevant," 2 denotes "Somewhat Relevant," 3 denotes "Quite Relevant," and 4 denotes "Highly Relevant." For quantitative analysis, ratings of 1 and 2 were recoded as 0, whereas ratings of 3 and 4 were recoded as 1. Expert panel review yielded a mean I-CVI of 1 and S-CVI of 1.

TABLE 2.0: DEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANTS FREQUENCY		
GENDER	MALE	53.70%
	FEMALE	46.30%
AGE		49.33(10.46)
EDUCATIONAL LEVEL:	PRIMARY	3
	SECONDARY	5
	GRADUATE	7
	TOTAL	15

The table presents the distribution of gender and educational attainment among participants recruited for pilot testing of the finalized version of the translated questionnaire. The sample comprised 53.7% males and 46.3% females.



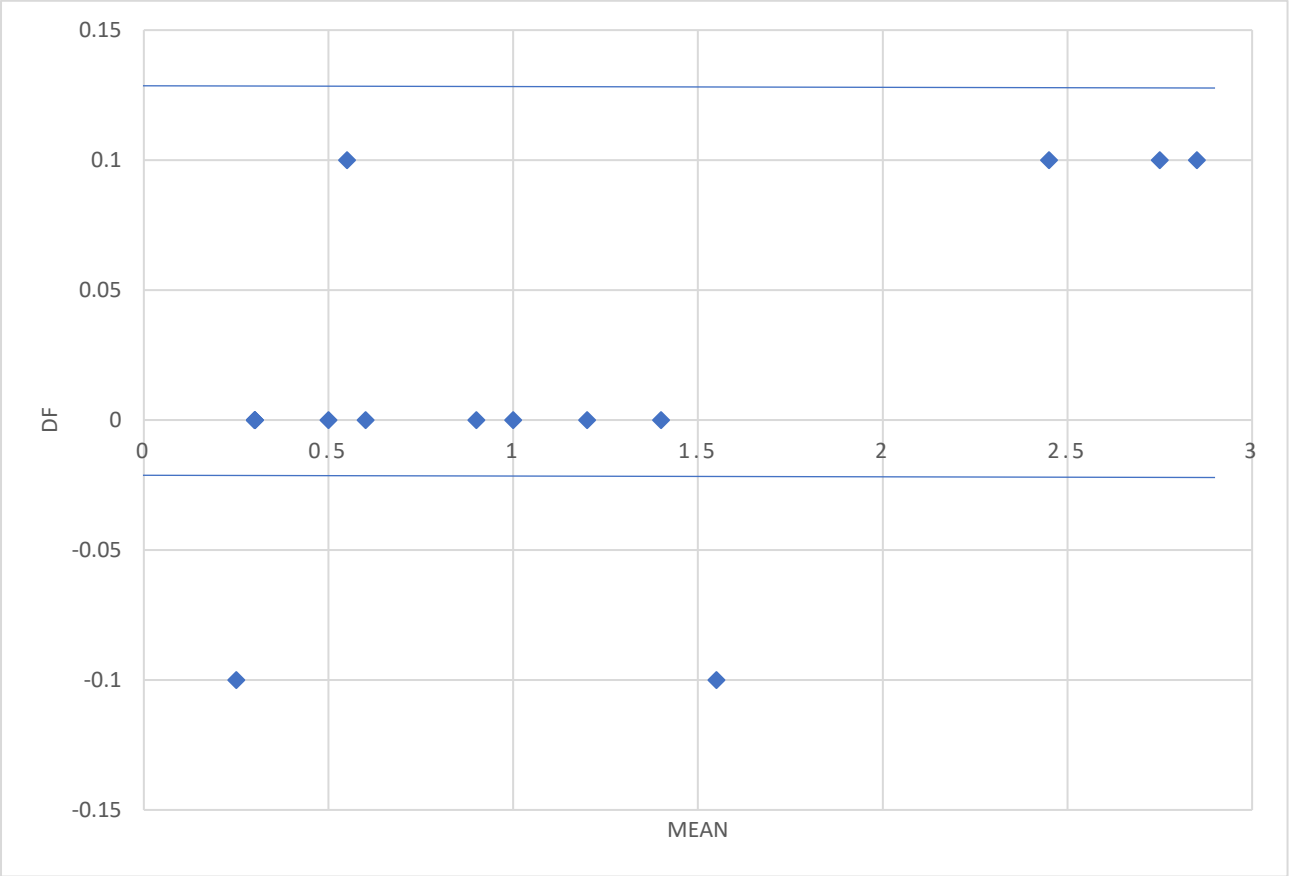
GRAPH 1.1: GENDER DISTRIBUTION FOR PARTICIPANT FREQUENCY



GRAPH 1.2: DISTRIBUTION FOR PARTICIPANT FREQUENCY ACCORDING TO LEVEL OF EDUCATION

TABLE 3.0: RELIABILITY ANALYSIS		
MEASURE	**STATISTIC**	**VALUE**
INTERNAL CONSISTENCY (CRONBACH'S ALPHA)	α	0.99
TEST-RETEST RELIABILITY (INTRACLASS CORRELATION COEFFICIENT)	ICC (SINGLE MEASURES)	0.998
PAIRED T-TEST (DIFFERENCE BETWEEN TEST AND RETEST TOTAL SCORES)	P-VALUE	0.43

The instrument demonstrated excellent reliability, with a Cronbach's alpha of 0.99 indicating high internal consistency, and an intraclass correlation coefficient (ICC) of 0.998 reflecting outstanding test–retest reliability. The non-significant paired t-test ($p = 0.43$) suggests no significant difference between test and retest total scores, confirming measurement stability.



GRAPH 2.1: Bland-Altman plot analysis shows first-rate agreement, and data clustering near the mean difference line confirms CCQ-ODA reliability.

DISCUSSION

DISCUSSION

This study presents the first comprehensive cross-cultural adaptation of the Clinical COPD Questionnaire into Odia, with primary emphasis on establishing rigorous content validity as the cornerstone of instrument adaptation. Content validity represents the foundational element of questionnaire translation, ensuring that the adapted version not only achieves linguistic equivalence but also captures the intended health constructs relevant to the target population's cultural context and lived experience with COPD.

The content validity evaluation process constituted the central methodological focus of this adaptation study, employing a systematic approach involving a multi-disciplinary expert panel comprising pulmonologists, a public health professional, physiotherapists, and linguistic specialists with expertise in both Odia language and respiratory medicine.

During the expert committee review, critical linguistic revisions were made to enhance clarity and cultural appropriateness in the Odia version of the Clinical COPD Questionnaire (CCQ-ODA). Notably, the wording originally assigned to the pre-final version was reviewed and modified to form the final version of the translated questionnaire to better reflect the intended concept, some of which are mentioned as follows. The initial phrase "ଶ୍ୱାସ ବନ୍ଦ ହୋଇଯିବ" in item 1 was updated to "ଶ୍ୱାସ ରୁଦ୍ଧ ଲାଗିବା" to improve comprehension. Furthermore, the phrase "କାର୍ଯ୍ୟ କରିବା ସମୟରେ" in item 2 was amended to "କାର୍ଯ୍ୟ କରିବା ସମୟରେ ଶ୍ୱାସକ୍ରିୟା ରେ ଅସୁବିଧା ଲାଗିବା ।" to provide meaning to the essence of the question. A related adjustment to an item 4 was changed from "ଅବସାଦ ଅନୁଭବ କରିଥିଲେ" to "ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା କୁ ନେଇ ଅବସାଦ (ମନ ଭଲ ନ ଲାଗିବା) ଅନୁଭବ କରିଥିଲେ?" for semantic precision. Importantly, the phrase initially in item 10 "କଥା ବାର୍ତ୍ତା କରିବା" was changed to "କଥା କହିବା ସମୟରେ" to capture more accurate and culturally meaningful

expressions. These deliberate, targeted changes during the harmonization phase crucially refined the questionnaire's linguistic fidelity and ensured it aligned with local dialect and conceptual expectations, forming an essential foundation for the instrument's validity and usability in the Odia-speaking COPD population.

The above-mentioned changes helped CCQ-ODA achieve perfect content validity indices at both the item level (I-CVI = 1.00) and scale level (S-CVI = 1.00) (TABLE 1.0), reflecting unanimous expert consensus on the clarity, relevance, cultural appropriateness, and conceptual equivalence of all questionnaire items within the Odia-speaking COPD population context. This comprehensive expert evaluation aligns with established best practices in cross-cultural adaptation protocols, where content validity serves as the primary indicator of successful cultural adaptation [19][22].

The achievement of perfect content validity indices represents a critical milestone, as content validity forms the theoretical foundation upon which all other psychometric properties depend. Without adequate content validity, subsequent assessments of reliability, construct validity, and responsiveness become meaningless, as the instrument would fail to measure the intended constructs within the target cultural context [23]. The unanimous expert agreement on item relevance and clarity indicates that the CCQ-ODA successfully preserves the conceptual integrity of the original instrument while ensuring cultural and linguistic appropriateness for Odia-speaking patients.

As a secondary component of the validation process, preliminary psychometric testing was conducted on a pilot sample of 15 COPD patients to provide initial evidence of the instrument's measurement properties in the target population. This pilot testing phase yielded encouraging results, with the CCQ-ODA demonstrating excellent internal

consistency (Cronbach's alpha = 0.99) and near-perfect test–retest reliability (ICC = 0.998), with no significant differences between administrations (p = 0.43) (TABLE 3.0). While these pilot findings are promising and suggest that the content-validated instrument performs well psychometrically, they should be interpreted as preliminary evidence requiring confirmation in larger, more diverse samples.

The perfect content validity indices achieved by the CCQ-ODA align with the rigorous content validation processes reported in other successful cross-cultural adaptations of the CCQ. Similar comprehensive expert evaluations have been documented in Persian, Italian, and Turkish adaptations, where content validity assessment served as the primary determinant of adaptation success [13][14][16]. The consistency of perfect or near-perfect content validity indices across multiple cultural adaptations reinforces the robustness of the CCQ's underlying construct structure and its amenability to successful cross-cultural adaptation when appropriate methodological procedures are followed.

The observed concordance in content validity outcomes with established international adaptations provides strong evidence for the CCQ-ODA's conceptual and experiential equivalence, which is essential for meaningful cross-cultural comparisons and potential inclusion in multi-centre research initiatives [21]. This content validity foundation ensures that the Odia adaptation maintains fidelity to the original instrument's intent while being appropriately contextualised for the target population.

The study's primary methodological strength resides in the comprehensive and systematic content validation approach, which employed rigorous translation procedures incorporating forward and backward translation by independent bilingual experts with specialised knowledge in respiratory medicine and Odia linguistic nuances. This meticulous translation methodology, guided by established international

guidelines, minimised semantic ambiguity while preserving the conceptual integrity of the original instrument [19][22].

The content validity assessment process involved a carefully selected expert panel representing diverse professional backgrounds, including clinical pulmonologists and public health professionals experienced in COPD management, physiotherapists specialising in respiratory care, and linguistic experts familiar with Odia cultural contexts. This multidisciplinary approach ensured comprehensive evaluation of both clinical relevance and cultural appropriateness, enhancing the robustness of content validity judgments.

The pilot testing phase, although secondary to the content validation focus, employed methodologically sound procedures, including the use of two independent raters for reliability assessment, which reduced potential bias and enhanced the preliminary psychometric evidence. The pilot sample's demographic characteristics—balanced gender distribution (53.3% males, 46.7% females) and varied educational backgrounds—provided initial evidence of the instrument's applicability across diverse segments of the Odia COPD population, although larger-scale validation remains necessary.

CONCLUSION

CONCLUSION

The Odia version of the Clinical COPD Questionnaire demonstrates perfect content validity, confirming its cultural appropriateness and relevance for measuring COPD-related health status in Odia-speaking patients. The questionnaire also exhibits strong psychometric properties, including excellent internal consistency and near-perfect test–retest reliability in pilot testing. Despite sample size constraints, these findings support the CCQ-ODA as a culturally relevant, valid, and practical tool for clinical assessment and research in Odisha's COPD population, with content validity being the primary indicator of its cross-cultural adaptation success.

LIMITATIONS
&
FUTURE RECOMMENDATIONS

LIMITATIONS

Important limitations are the limited sample size (N = 15), which could be confining on statistical power and precision of psychometric estimates. The lack of construct validity determination via factor analysis or correlation with additional health status measures confines dimensional structure knowledge. Responsiveness to clinical change and criterion validity against physiological measures were not studied, which confines the observation of sensitivity and concurrent validity.

FUTURE RECOMMENDATIONS

Subsequent research should enrol larger, more generalizable cohorts to replicate reliability and validity results and conduct confirmatory factor analysis to explicate the CCQ-ODA's domain structure. Testing construct validity through correlations with conceptually related measures (e.g., St. George's Respiratory Questionnaire, mMRC dyspnea scale) and criterion validity against spirometric indices will enhance evidence. Longitudinal studies examining responsiveness to pulmonary rehabilitation or medication interventions will establish the minimal clinically important difference for CCQ-ODA.

SUMMARY

SUMMARY

This cross-sectional validation study translated and culturally adapted the Clinical COPD Questionnaire into Odia (CCQ-ODA) using systematic forward-backward translation methodology. An expert panel evaluated content validity, achieving perfect Content Validity Indices (I-CVI and S-CVI = 1.00), indicating unanimous consensus on item relevance and clarity. Pilot testing with 15 COPD patients (mean age 49.33 ± 10.46 years; 53.3% male) demonstrated excellent internal consistency (Cronbach's alpha = 0.99) and near-perfect test-retest reliability (ICC = 0.998) with no significant differences between administrations (p = 0.43). The CCQ-ODA represents the first validated patient-reported outcome measure for assessing COPD-related health status in Odia-speaking populations, suitable for clinical and research applications.

STATEMENT OF FUNDING

No funding had been granted or used for the study.

CONFLICT OF INTEREST

The authors declare that there is no potential conflict of interest reported during the course of this study.

DATA AVAILABILITY STATEMENT

The datasets produced and/or analyzed in this study are not publicly accessible due to privacy and confidentiality concerns, but can be obtained from the corresponding author upon reasonable request. The detailed original data underlying the findings of this study, including raw measurements and analysis files, are securely stored and can be accessed upon request for research and verification purposes.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. World Health Organisation. (2024). *Chronic obstructive pulmonary disease (COPD).*

2. Global Initiative for Chronic Obstructive Lung Disease. (2023). *Global strategy for prevention, diagnosis, and management of COPD: 2023 report.*

3. Institute for Quality and Efficiency in Health Care (IQWiG). (2022, December 28). *Overview: Chronic obstructive pulmonary disease (COPD).* InformedHealth.org. https://www.ncbi.nlm.nih.gov/books/NBK315789/

4. Boers, E., Barrett, M., Su, J. G., et al. (2023). Global burden of chronic obstructive pulmonary disease through 2050. *JAMA Network Open.*

5. European Federation of Allergy and Airways Diseases Patients' Associations (EFA). (n.d.). *The burden of COPD.* EFA COPD Patient Project. https://copd.efanet.org/burden-of-copd/

6. Daniel, R. A., Aggarwal, P., Kalaivani, M., & Gupta, S. K. (n.d.). Prevalence of chronic obstructive pulmonary disease in India: A systematic review and meta-analysis.

7. Pati, S., et al. (2018). An assessment of health-related quality of life among patients with COPD in Odisha, India.

8. Cazzola, M., Hanania, N. A., MacNee, W., Rüdell, K., Hackford, C., & Tamimi, N. (2015). A review of the most common patient-reported outcomes in COPD—Revisiting current knowledge and estimating future challenges. *International Journal of Chronic Obstructive Pulmonary Disease, 10,* 725–738. https://doi.org/10.2147/COPD.S77368

9. Müllerova, H., Gelhorn, H., Wilson, H., et al. (2017). St George's Respiratory Questionnaire score predicts outcomes in patients with COPD: Analysis of individual patient data in the COPD Biomarkers Qualification Consortium database. *Chronic Obstructive Pulmonary Disease (Miami), 4*(2), 141–149. https://doi.org/10.15326/jcopdf.4.2.2017.0131

10. van der Molen, T., Willemse, B. W., Schokker, S., ten Hacken, N. H., Postma, D. S., & Juniper, E. F. (2003). Development, validity and responsiveness of the Clinical COPD Questionnaire. *Health and Quality of Life Outcomes, 1,* 13. https://doi.org/10.1186/1477-7525-1-13

11. Zhou, Z., Zhou, A., Zhao, Y., & Chen, P. (2017). Evaluating the Clinical COPD Questionnaire: A systematic review. *Respirology, 22*(2), 251–262. https://doi.org/10.1111/resp.12970

12. Rê, A., Fonseca, F. R., Queiroz, A. P., et al. (2021). Brazilian version of the Clinical COPD Questionnaire, administered by interview: Reliability and validity measurement properties. *Jornal Brasileiro de Pneumologia, 47*(3), e20200371. https://doi.org/10.36416/1806-3756/e20200371

13. Damato, S., Bonatti, C., Frigo, V., et al. (2005). Validation of the Clinical COPD Questionnaire in Italian language. *Health and Quality of Life Outcomes, 3,* 9. https://doi.org/10.1186/1477-7525-3-9

14. Hasanpour, N., Attarbashi Moghadam, B., Sami, R., & Tavakol, K. (2016). Cross-cultural adaptation, reliability, and validity study of the Persian version of the Clinical COPD Questionnaire. *Acta Medica Iranica, 54*(8), 518–524.

15. Lin, W. C., Huang, T. Y., Liu, C. Y., Yeh, M. L., Yu, C. H., & Hwang, S. L. (2016). Validation of the Clinical COPD Questionnaire in Taiwan. *COPD:*

Journal of Chronic Obstructive Pulmonary Disease, 13(3), 360–366. https://doi.org/10.3109/15412555.2015.1094456

16. Taspinar, B., Erbay, U., Taspinar, F., & Aksoy, C. C. (2020). Validity and reliability of the Turkish version of the Clinical COPD Questionnaire. *Journal of Back and Musculoskeletal Rehabilitation, 33*(3), 379–385. https://doi.org/10.3233/BMR-181439

17. Verma, S. (2016). Linguistic validation of Clinical COPD Questionnaire (CCQ) in an Indian regional language (Kannada). *International Journal of Health Sciences Research.*

18. Banerjee, A., Nahar, L., Bhat, S., et al. (2020). Psychometric analysis of the Bengali Clinical Chronic Obstructive Pulmonary Disease Questionnaire. *Indian Journal of Respiratory Care, 9,* 40. https://doi.org/10.4103/ijrc.ijrc_19_19

19. Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine, 25*(24), 3186–3191. https://doi.org/10.1097/00007632-200012150-00014

20. Wild, D., Grove, A., Martin, M., et al. (2005). Principles of good practice for the translation and cultural adaptation process for patient-reported outcomes (PRO) measures: Report of the ISPOR Task Force. *Value in Health, 8*(2), 94–104. https://doi.org/10.1111/j.1524-4733.2005.04054.x

21. Sousa, V. D., & Rojjanasrirat, W. (2011). Translation, adaptation and validation of instruments or scales for use in cross-cultural health care

research: A clear and user-friendly guideline. *Journal of Evaluation in Clinical Practice, 17*(2), 268–274. https://doi.org/10.1111/j.1365-2753.2010.01434.x

22. Cruchinho, P., López-Franco, M. D., Capelas, M. L., Almeida, S., Bennett, P. M., Miranda da Silva, M., Teixeira, G., Nunes, E., Lucas, P., Gaspar, F., & Handovers4SafeCare (2024). Translation, Cross-Cultural Adaptation, and Validation of

23. Guillemin, F., Bombardier, C., & Beaton, D. (1993). Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines. *Journal of clinical epidemiology*, *46*(12), 1417–1432. https://doi.org/10.1016/0895-4356(93)90142-n

24. Polit, D. F., & Beck, C. T. (2017). *Nursing Research: Generating and Assessing Evidence for Nursing Practice* (10th ed., pp. 307-310). Wolters Kluwer.

ANNEXURE

ANNEXURE 1 – CONSENT FORM

Informed Consent Form to Participate in a Clinical Trial

Study Title: CROSS-CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTIONNAIRE

Study Number:
Subject's Name: _____
Date of Birth / Age: _____
Address of the Subject: _____
Qualification: _____
Occupation: Professional Swimmer
Signature of Participant: _____

(i) I confirm that I have read and understood the information sheet dated _____ for the above study and have had the opportunity to ask questions.
(ii) I understand that my participation in the study is voluntary and that I am free to withdraw at any time, without giving any reason.
(iii) I agree not to restrict the use of any data or results that arise from this study provided such a use is only for scientific purposes.
(iv) I agree to take part in the above study.

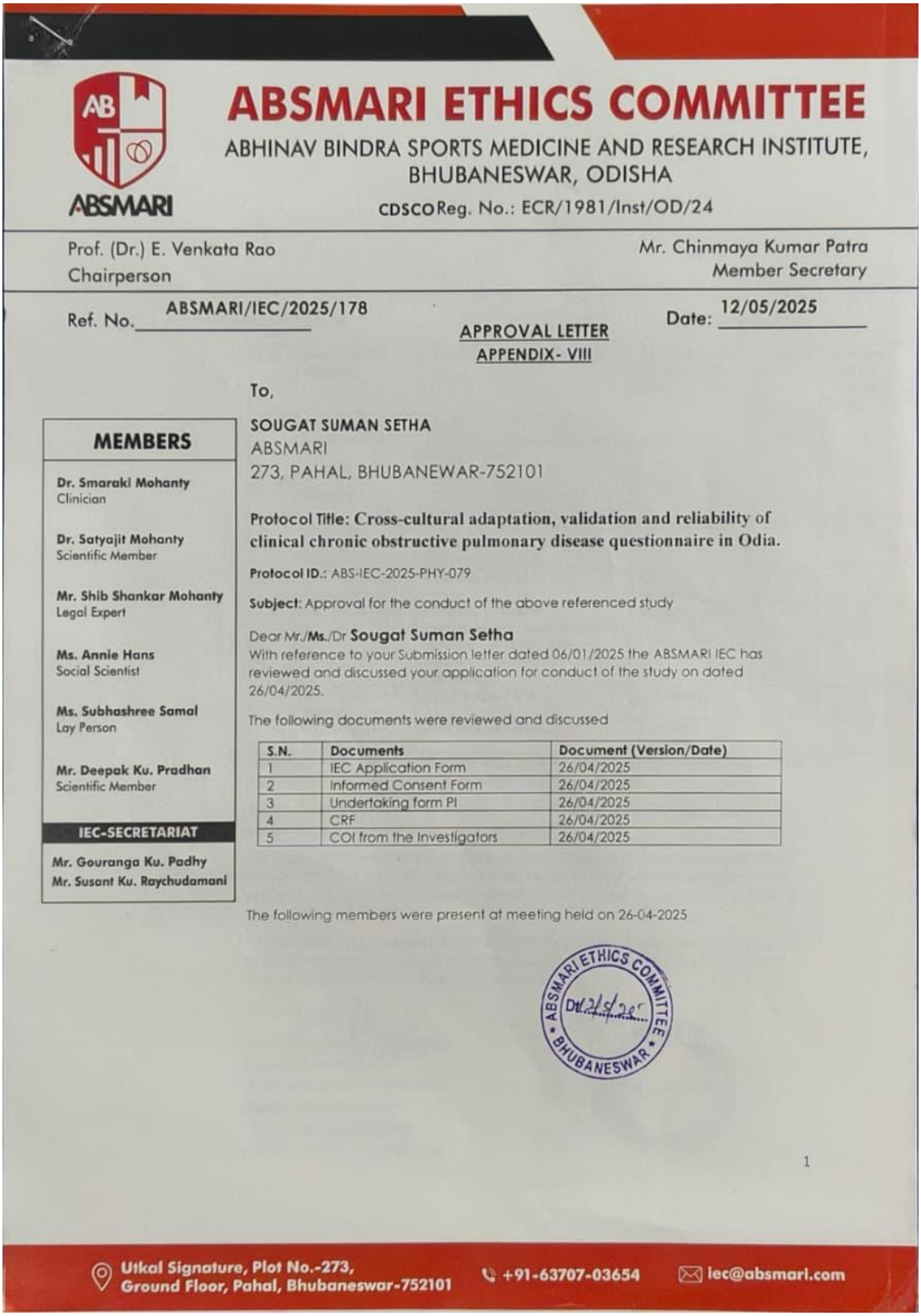
Signature of the Participant: _____
Date: _____ / _____ / _____
Signatory's Name: _____

Investigator Details
Date: _____
Signature of the Investigator: _____
Study Investigator's Name: Shivansh

Witness Details
Signature of the Witness: _____
Date: _____ / _____ / _____
Name of the Witness: _____

Copy of the Patient Information Sheet and duly filled Informed Consent Form shall be handed over to the subject or his/her attendant.

ANNEXURE 2 – IEC APPROVAL



ABSMARI ETHICS COMMITTEE

ABHINAV BINDRA SPORTS MEDICINE AND RESEARCH INSTITUTE,
BHUBANESWAR, ODISHA

CDSCO Reg. No.: ECR/1981/Inst/OD/24

Prof. (Dr.) E. Venkata Rao
Chairperson

Mr. Chinmaya Kumar Patra
Member Secretary

Ref. No. ABSMARI/IEC/2025/178

Date: 12/05/2025

APPROVAL LETTER
APPENDIX- VIII

To,

SOUGAT SUMAN SETHA
ABSMARI
273, PAHAL, BHUBANEWAR-752101

MEMBERS

Dr. Smaraki Mohanty
Clinician

Dr. Satyajit Mohanty
Scientific Member

Mr. Shib Shankar Mohanty
Legal Expert

Ms. Annie Hans
Social Scientist

Ms. Subhashree Samal
Lay Person

Mr. Deepak Ku. Pradhan
Scientific Member

IEC-SECRETARIAT

Mr. Gouranga Ku. Padhy
Mr. Susant Ku. Raychudamani

Protocol Title: Cross-cultural adaptation, validation and reliability of clinical chronic obstructive pulmonary disease questionnaire in Odia.

Protocol ID.: ABS-IEC-2025-PHY-079

Subject: Approval for the conduct of the above referenced study

Dear Mr./**Ms.**/Dr **Sougat Suman Setha**
With reference to your Submission letter dated 06/01/2025 the ABSMARI IEC has reviewed and discussed your application for conduct of the study on dated 26/04/2025.

The following documents were reviewed and discussed

S.N.	Documents	Document (Version/Date)
1	IEC Application Form	26/04/2025
2	Informed Consent Form	26/04/2025
3	Undertaking form PI	26/04/2025
4	CRF	26/04/2025
5	COI from the Investigators	26/04/2025

The following members were present at meeting held on 26-04-2025

ABSMARI ETHICS COMMITTEE
Dt. 26/04/2025
BHUBANESWAR

1

Utkal Signature, Plot No.-273,
Ground Floor, Pahal, Bhubaneswar-752101
+91-63707-03654
iec@absmari.com

ANNEXURE 3 – NOC FOR SUM HOSPITALS

ABHINAV BINDRA
Sports Medicine & Research Institute
A Unit of the Abhinav Bindra Foundation Trust
Recognised by DMET, Health & FW Dept., Govt. of Odisha, Affiliated to Utkal University
Recognised by Odisha State Council for Occupational Therapy and Physiotherapy
Affiliated to Odisha University of Health Sciences, Bhubaneswar

Head Office:
Plot No.-107, Sector-82
JLPL Industrial Area,
Sahibzada Ajit Singh
Nagar, Punjab - 140306
+91 99156 31755
principal@absmari.com

Date-16.05.2025
Letter no-ABSMARI/ADMIN /2025/2626

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. SOUGAT SUMAN SETHA is a bonafide student of ABSMARI M.P.T. 2ND Year batch of ABSMARI bearing Roll No ABS-MPT-2023-48 With reference to his requisition this institute has no objection in allowing him to carry out his research work as per the following details under the guidance of Dr. PRIYADARSHINI MISHRA.

Ref: ABSMARI/IEC/2025/178

Title -:" CROSS CULTURAL ADAPTATION , VALIDATION & RELIABILITY OF CLINICAL CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN ODIA."

Population – COPD Patients

study settings – SUM Hospital , BBSR

Duration – 6 week From - dt 01.06.2025 to dt.31.06.2025

under the following conditions subject to thorough permission from their end -

1. He has to produce his official engagement plan issued by the study setting
2. He has to submit his certificate of attendance at last
3. He is liable to respond to institute when required
4. He must attend all examinations scheduled by the institution or university during this period
5. Daily report to Research- Guide and CC to Course-Coordinator is highly required

This NOC is effective from – dt. 01.06.2025 to dt.31.06.2025

CC –The Research Head, ABSMARI, The Course -Coordinator, The Research- Guide, Admin office

Principal, ABSMARI
16.5.25
PRINCIPAL, ABSMARI

ABHINAV BINDRA SPORTS MEDICINE AND RESEARCH INSTITUTE
ABSMARI BHUBANESWAR

Utkal Signature, Plot No 273, NH-5, Pahal, Bhubaneswar, 752101
Phone: 6370703650, 6370703651

ANNEXURE 4 – REVIEW FORMS 1

କ୍ଲିନିକାଲ ସିଓପିଡି ପ୍ରଶ୍ନ ବଳୀ

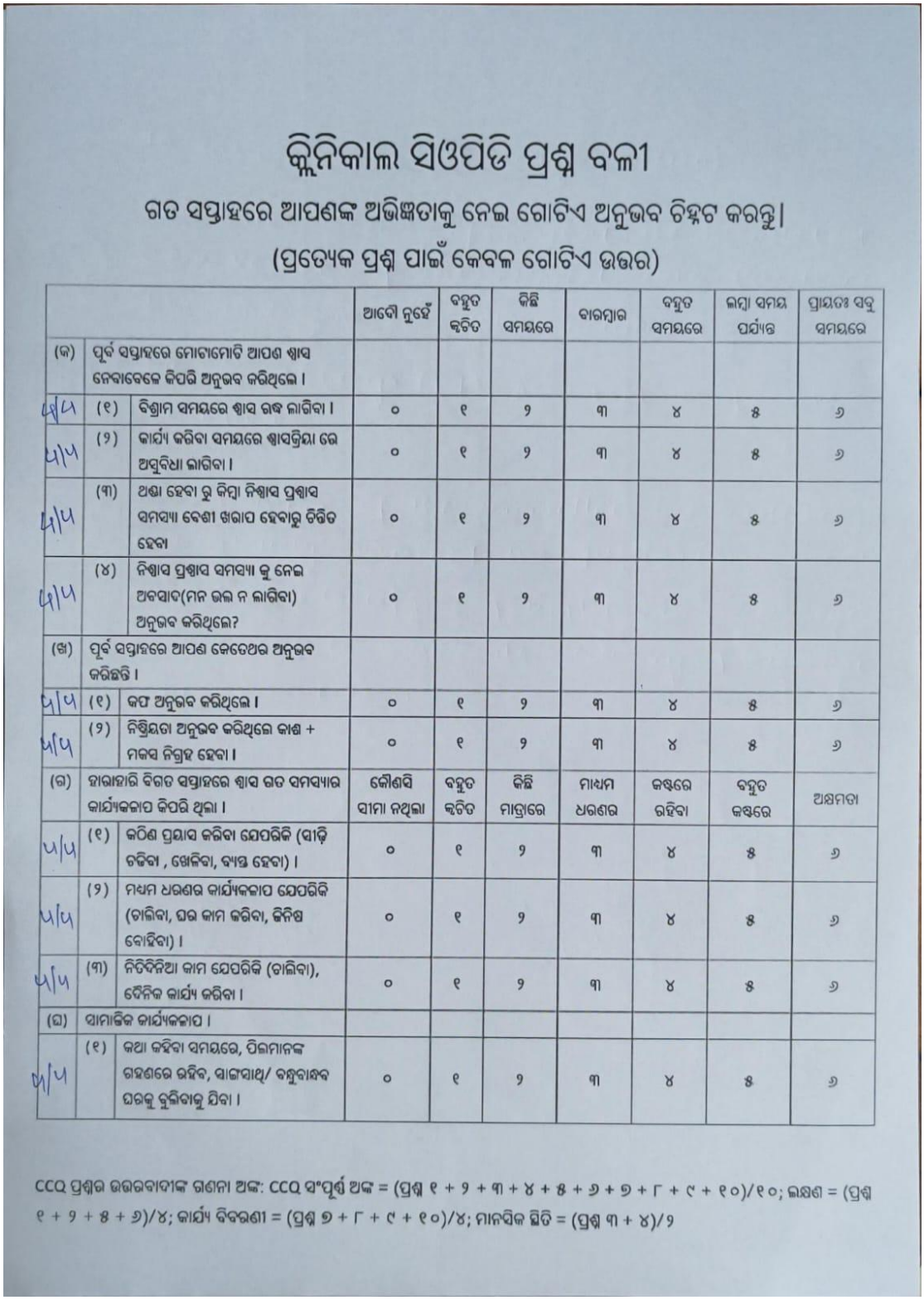
ଗତ ସପ୍ତାହରେ ଆପଣଙ୍କ ଅଭିଜ୍ଞତାକୁ ନେଇ ଗୋଟିଏ ଅନୁଭବ ଚିହ୍ନଟ କରନ୍ତୁ।

(ପ୍ରତ୍ୟେକ ପ୍ରଶ୍ନ ପାଇଁ କେବଳ ଗୋଟିଏ ଉତ୍ତର)

			ଆଦୌ ନୁହେଁ	ବହୁତ କ୍ଷଣିକ	କିଛି ସମୟରେ	ବାରମ୍ବାର	ବହୁତ ସମୟରେ	ଲମ୍ବା ସମୟ ପର୍ଯ୍ୟନ୍ତ	ପ୍ରାୟତଃ ସବୁ ସମୟରେ
(କ)	ପୂର୍ବ ସପ୍ତାହରେ ମୋଟାମୋଟି ଆପଣ ଶ୍ୱାସ ନେବାବେଳେ କିପରି ଅନୁଭବ କରିଥିଲେ ।								
୪	(୧)	ବିଶ୍ରାମ ସମୟରେ ଶ୍ୱାସ ରୁଦ୍ଧ ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
୪	(୨)	କାର୍ଯ୍ୟ କରିବା ସମୟରେ ଶ୍ୱାସକ୍ରିୟା ରେ ଅସୁବିଧା ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
୪	(୩)	ଥଣ୍ଡା ହେବା ରୁ ଜିମ୍ବା ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା ବେଶୀ ଖରାପ ହେବାରୁ ଚିନ୍ତିତ ହେବା	୦	୧	୨	୩	୪	୫	୬
୪	(୪)	ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା କୁ ନେଇ ଅବସାଦ(ମନ ଭଲ ନ ଲାଗିବା) ଅନୁଭବ କରିଥିଲେ?	୦	୧	୨	୩	୪	୫	୬
(ଖ)	ପୂର୍ବ ସପ୍ତାହରେ ଆପଣ କେତେଥର ଅନୁଭବ କରିଛନ୍ତି ।								
୪	(୧)	କଫ ଅନୁଭବ କରିଥିଲେ ।	୦	୧	୨	୩	୪	୫	୬
୪	(୨)	ନିଷ୍ପ୍ରିୟତା ଅନୁଭବ କରିଥିଲେ କାଶ + ମକସ ନିଗ୍ରହ ହେବା ।	୦	୧	୨	୩	୪	୫	୬
(ଗ)	ହାରାହାରି ବିଗତ ସପ୍ତାହରେ ଶ୍ୱାସ ଗତ ସମସ୍ୟାର କାର୍ଯ୍ୟକଳାପ କିପରି ଥିଲା ।		କୌଣସି ସୀମା ନଥିଲା	ବହୁତ କ୍ଷଣିକ	କିଛି ମାତ୍ରାରେ	ମାଧ୍ୟମ ଧରଣର	କଷ୍ଟରେ ରହିବା	ବହୁତ କଷ୍ଟରେ	ଅକ୍ଷମତା
୪	(୧)	କଠିଣ ପ୍ରୟାସ କରିବା ଯେପରିକି (ସାଢ଼ି ଚଢିବା , ଖେଳିବା, ବ୍ୟସ୍ତ ହେବା) ।	୦	୧	୨	୩	୪	୫	୬
୪	(୨)	ମଧ୍ୟମ ଧରଣର କାର୍ଯ୍ୟକଳାପ ଯେପରିକି (ଚାଲିବା, ଘର କାମ କରିବା, କିଛି ବୋହିବା) ।	୦	୧	୨	୩	୪	୫	୬
୪	(୩)	ନିତିଦିନିଆ କାମ ଯେପରିକି (ଚାଲିବା), ଦୈନିକ କାର୍ଯ୍ୟ କରିବା ।	୦	୧	୨	୩	୪	୫	୬
(ଘ)	ସାମାଜିକ କାର୍ଯ୍ୟକଳାପ ।								
୪	(୧)	କଥା କହିବା ସମୟରେ, ପିଲାମାନଙ୍କ ଗହଣରେ ରହିବ, ସାଙ୍ଗସାଥି/ ବନ୍ଧୁବାନ୍ଧବ ଘରକୁ ବୁଲିବାକୁ ଯିବା ।	୦	୧	୨	୩	୪	୫	୬

CCQ ପ୍ରଶ୍ନର ଉତ୍ତରଦାତାଙ୍କ ଗଣନା ଅଙ୍କ: CCQ ସଂପୂର୍ଣ୍ଣ ଅଙ୍କ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୩ + ୪ + ୫ + ୬ + ୭ + ୮ + ୯ + ୧୦)/୧୦; ଲକ୍ଷଣ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୫ + ୬)/୪; କାର୍ଯ୍ୟ ବିବରଣୀ = (ପ୍ରଶ୍ନ ୬ + ୭ + ୯ + ୧୦)/୪; ମାନସିକ ସ୍ଥିତି = (ପ୍ରଶ୍ନ ୩ + ୪)/୨

REVIEW FORM 2



କ୍ଲିନିକାଲ ସିଓପିଡି ପ୍ରଶ୍ନ ବଳୀ

ଗତ ସପ୍ତାହରେ ଆପଣଙ୍କ ଅଭିଜ୍ଞତାକୁ ନେଇ ଗୋଟିଏ ଅନୁଭବ ଚିହ୍ନଟ କରନ୍ତୁ।

(ପ୍ରତ୍ୟେକ ପ୍ରଶ୍ନ ପାଇଁ କେବଳ ଗୋଟିଏ ଉତ୍ତର)

			ଆଦୌ ନୁହେଁ	ବହୁତ କ୍ୱଚିତ	କିଛି ସମୟରେ	ବାରମ୍ବାର	ବହୁତ ସମୟରେ	ଲମ୍ବା ସମୟ ପର୍ଯ୍ୟନ୍ତ	ପ୍ରାୟତଃ ସବୁ ସମୟରେ
(କ)	ପୂର୍ବ ସପ୍ତାହରେ ମୋଟାମୋଟି ଆପଣ ଶ୍ୱାସ ନେବାବେଳେ କିପରି ଅନୁଭବ କରିଥିଲେ ।								
୪/୫	(୧)	ବିଶ୍ରାମ ସମୟରେ ଶ୍ୱାସ ରୁଦ୍ଧ ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
୪/୫	(୨)	କାର୍ଯ୍ୟ କରିବା ସମୟରେ ଶ୍ୱାସକ୍ରିୟା ରେ ଅସୁବିଧା ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
୪/୫	(୩)	ଥଣ୍ଡା ହେବା ରୁ କିମ୍ବା ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା ବେଶୀ ଖରାପ ହେବାରୁ ଚିନ୍ତିତ ହେବା	୦	୧	୨	୩	୪	୫	୬
୪/୫	(୪)	ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା କୁ ନେଇ ଅବସାଦ(ମନ ଭଲ ନ ଲାଗିବା) ଅନୁଭବ କରିଥିଲେ?	୦	୧	୨	୩	୪	୫	୬
(ଖ)	ପୂର୍ବ ସପ୍ତାହରେ ଆପଣ କେତେଥର ଅନୁଭବ କରିଛନ୍ତି ।								
୫/୫	(୧)	ଜଫ ଅନୁଭବ କରିଥିଲେ ।	୦	୧	୨	୩	୪	୫	୬
୫/୫	(୨)	ନିଷ୍ପ୍ରୟତା ଅନୁଭବ କରିଥିଲେ କାଶ + ମଳସ ନିଗ୍ରହ ହେବା ।	୦	୧	୨	୩	୪	୫	୬
(ଗ)	ହାରାହାରି ବିଗତ ସପ୍ତାହରେ ଶ୍ୱାସ ଗତ ସମସ୍ୟାର କାର୍ଯ୍ୟକଳାପ କିପରି ଥିଲା ।		କୌଣସି ସୀମା ନଥିଲା	ବହୁତ କ୍ୱଚିତ	କିଛି ମାତ୍ରାରେ	ମାଧ୍ୟମ ଧରଣର	କଷ୍ଟରେ ରହିବା	ବହୁତ କଷ୍ଟରେ	ଅକ୍ଷମତା
୫/୫	(୧)	କଠିଣ ପ୍ରୟାସ କରିବା ଯେପରିକି (ସାଢ଼ି ଚଢିବା , ଖେଳିବା, ବ୍ୟସ୍ତ ହେବା) ।	୦	୧	୨	୩	୪	୫	୬
୫/୫	(୨)	ମଧ୍ୟମ ଧରଣର କାର୍ଯ୍ୟକଳାପ ଯେପରିକି (ଚାଲିବା, ଘର କାମ କରିବା, କିନିଷ ବୋହିବା) ।	୦	୧	୨	୩	୪	୫	୬
୫/୫	(୩)	ନିତିଦିନିଆ କାମ ଯେପରିକି (ଚାଲିବା), ଦୈନିକ କାର୍ଯ୍ୟ କରିବା ।	୦	୧	୨	୩	୪	୫	୬
(ଘ)	ସାମାଜିକ କାର୍ଯ୍ୟକଳାପ ।								
୫/୫	(୧)	କଥା କହିବା ସମୟରେ, ପିଲମାନଙ୍କ ଗହଣରେ ରହିବ, ସାଙ୍ଗସାଥି/ ବନ୍ଧୁବାନ୍ଧବ ଘରକୁ ବୁଲିବାକୁ ଯିବା ।	୦	୧	୨	୩	୪	୫	୬

CCQ ପ୍ରଶ୍ନର ଉତ୍ତରଦାତାଙ୍କ ଗଣନା ଅଙ୍କ: CCQ ସଂପୂର୍ଣ୍ଣ ଅଙ୍କ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୩ + ୪ + ୫ + ୬ + ୭ + ୮ + ୯ + ୧୦)/୧୦; ଲକ୍ଷଣ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୫ + ୬)/୪; କାର୍ଯ୍ୟ ବିବରଣୀ = (ପ୍ରଶ୍ନ ୬ + ୭ + ୯ + ୧୦)/୪; ମାନସିକ ସ୍ଥିତି = (ପ୍ରଶ୍ନ ୩ + ୪)/୨

REVIEW FORM 3

କ୍ଲିନିକାଲ ସିଓପିଡି ପ୍ରଶ୍ନ ବଳୀ

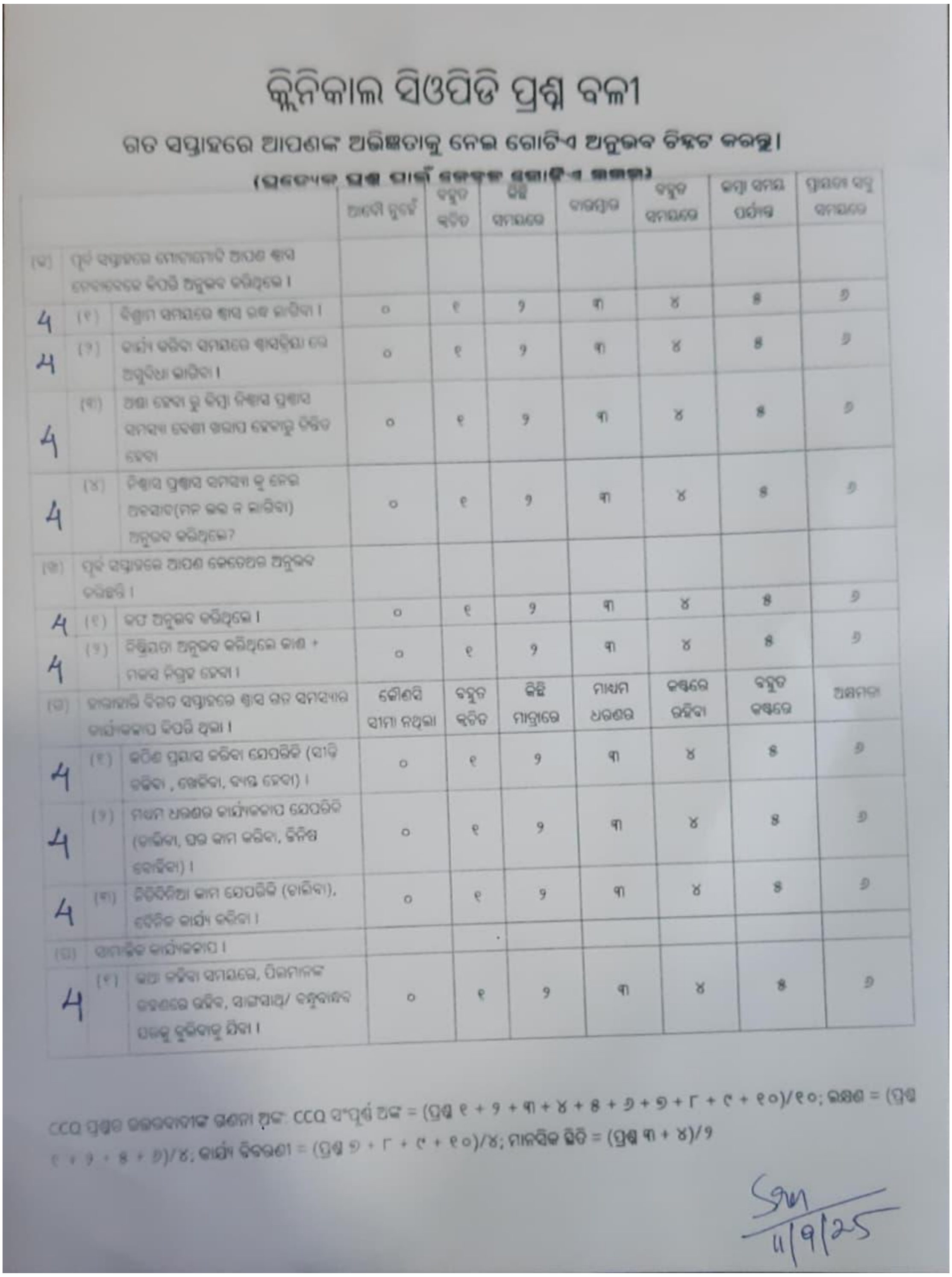
ଗତ ସପ୍ତାହରେ ଆପଣଙ୍କ ଅଭିଜ୍ଞତାକୁ ନେଇ ଗୋଟିଏ ଅନୁଭବ ଚିହ୍ନଟ କରନ୍ତୁ।

(ପ୍ରତ୍ୟେକ ପ୍ରଶ୍ନ ପାଇଁ କେବଳ ଗୋଟିଏ ଉତ୍ତର)

			ଆଦୌ ନୁହେଁ	ବହୁତ କ୍ଷଣିତ	କିଛି ସମୟରେ	ବାରମ୍ବାର	ବହୁତ ସମୟରେ	ଲଗ୍ଭା ସମୟ ପର୍ଯ୍ୟନ୍ତ	ପ୍ରାୟତଃ ସବୁ ସମୟରେ
(କ)	ପୂର୍ବ ସପ୍ତାହରେ ମୋଟାମୋଟି ଆପଣ ଶ୍ୱାସ ନେବାବେଳେ କିପରି ଅନୁଭବ କରିଥିଲେ ।								
4	(୧)	ବିଶ୍ରାମ ସମୟରେ ଶ୍ୱାସ ରୁଦ୍ଧ ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
4	(୨)	କାର୍ଯ୍ୟ କରିବା ସମୟରେ ଶ୍ୱାସକ୍ରିୟା ରେ ଅସୁବିଧା ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
4	(୩)	ଥଣ୍ଡା ହେବା ରୁ କିମ୍ବା ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା ବେଶୀ ଖରାପ ହେବାରୁ ଚିନ୍ତିତ ହେବା	୦	୧	୨	୩	୪	୫	୬
4	(୪)	ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା କୁ ନେଇ ଅବସାଦ(ମନ ଭଲ ନ ଲାଗିବା) ଅନୁଭବ କରିଥିଲେ?	୦	୧	୨	୩	୪	୫	୬
(ଖ)	ପୂର୍ବ ସପ୍ତାହରେ ଆପଣ କେତେଥର ଅନୁଭବ କରିଛନ୍ତି ।								
4	(୧)	ଜଫ ଅନୁଭବ କରିଥିଲେ ।	୦	୧	୨	୩	୪	୫	୬
4	(୨)	ନିଷ୍କ୍ରିୟତା ଅନୁଭବ କରିଥିଲେ କାଶ + ମକସ ନିଗ୍ରହ ହେବା ।	୦	୧	୨	୩	୪	୫	୬
(ଗ)	ହାରାହାରି ବିଗତ ସପ୍ତାହରେ ଶ୍ୱାସ ଗତ ସମସ୍ୟାର କାର୍ଯ୍ୟକଳାପ କିପରି ଥିଲା ।		କୌଣସି ସୀମା ନଥିଲା	ବହୁତ କ୍ଷଣିତ	କିଛି ମାତ୍ରାରେ	ମାଧ୍ୟମ ଧରଣର	କଷ୍ଟରେ ରହିବା	ବହୁତ କଷ୍ଟରେ	ଅକ୍ଷମତା
4	(୧)	କଠିଣ ପ୍ରୟାସ କରିବା ଯେପରିକି (ସାଢ଼ି ଚଢିବା , ଖେଳିବା, ବ୍ୟସ୍ତ ହେବା) ।	୦	୧	୨	୩	୪	୫	୬
4	(୨)	ମଧ୍ୟମ ଧରଣର କାର୍ଯ୍ୟକଳାପ ଯେପରିକି (ଡାଲିବା, ଘର କାମ କରିବା, ଜିନିଷ ବୋହିବା) ।	୦	୧	୨	୩	୪	୫	୬
4	(୩)	ନିତିଦିନିଆ କାମ ଯେପରିକି (ଡାଲିବା), ଦୈନିକ କାର୍ଯ୍ୟ କରିବା ।	୦	୧	୨	୩	୪	୫	୬
(ଘ)	ସାମାଜିକ କାର୍ଯ୍ୟକଳାପ ।								
4	(୧)	କଥା କହିବା ସମୟରେ, ପିଲାମାନଙ୍କ ଗହଣରେ ରହିବ, ସାଙ୍ଗସାଥି/ ବନ୍ଧୁବାନ୍ଧବ ଘରକୁ ବୁଲିବାକୁ ଯିବା ।	୦	୧	୨	୩	୪	୫	୬

CCQ ପ୍ରଶ୍ନର ଉତ୍ତରଦାତାଙ୍କ ଗଣନା ଅଙ୍କ: CCQ ସଂପୂର୍ଣ୍ଣ ଅଙ୍କ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୩ + ୪ + ୫ + ୬ + ୮ + ୯ + ୧୦)/୧୦; ଲକ୍ଷଣ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୫ + ୬)/୪; କାର୍ଯ୍ୟ ବିବରଣୀ = (ପ୍ରଶ୍ନ ୬ + ୮ + ୯ + ୧୦)/୪; ମାନସିକ ସ୍ଥିତି = (ପ୍ରଶ୍ନ ୩ + ୪)/୨

REVIEW FORM 4



 କ୍ଲିନିକାଲ ସିଓପିଡି ପ୍ରଶ୍ନ ବଳୀ

ଗତ ସପ୍ତାହରେ ଆପଣଙ୍କ ଅଭିଜ୍ଞତାକୁ ନେଇ ଗୋଟିଏ ଅନୁଭବ ଚିହ୍ନଟ କରନ୍ତୁ।

(ପ୍ରତ୍ୟେକ ପ୍ରଶ୍ନ ପାଇଁ କେବଳ ଗୋଟିଏ ଉତ୍ତର)

			ଆଦୌ ନୁହେଁ	ବହୁତ କ୍ୱଚିତ	କିଛି ସମୟରେ	କଦାଚିତ	ବହୁତ ସମୟରେ	ଲମ୍ବା ସମୟ ପର୍ଯ୍ୟନ୍ତ	ପ୍ରାୟତଃ ସବୁ ସମୟରେ
(କ)		ପୂର୍ବ ସପ୍ତାହରେ ମୋଟାମୋଟି ଆପଣ ଶ୍ୱାସ ନେବାବେଳେ କିପରି ଅନୁଭବ କରିଥିଲେ।							
4	(୧)	ବିଶ୍ରାମ ସମୟରେ ଶ୍ୱାସ ରୁଦ୍ଧ ଲାଗିବା।	୦	୧	୨	୩	୪	୫	୬
4	(୨)	କାର୍ଯ୍ୟ କରିବା ସମୟରେ ଶ୍ୱାସକ୍ରିୟା ରେ ଅସୁବିଧା ଲାଗିବା।	୦	୧	୨	୩	୪	୫	୬
4	(୩)	ଅଶାନ୍ତ ହେବା ରୁ କିମ୍ବା ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା ବେଶୀ ଖରାପ ହେବାରୁ ଚିନ୍ତିତ ହେବା	୦	୧	୨	୩	୪	୫	୬
4	(୪)	ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା କୁ ନେଇ ଅବସାଦ(ମନ ଭଲ ନ ଲାଗିବା) ଅନୁଭବ କରିଥିଲେ?	୦	୧	୨	୩	୪	୫	୬
(ଖ)		ପୂର୍ବ ସପ୍ତାହରେ ଆପଣ କେତେଥର ଅନୁଭବ କରିଛନ୍ତି।							
4	(୧)	କଫ ଅନୁଭବ କରିଥିଲେ।	୦	୧	୨	୩	୪	୫	୬
4	(୨)	ନିଷ୍କ୍ରିୟତା ଅନୁଭବ କରିଥିଲେ କାଶ + ମଇଳ ନିର୍ଗତ ହେବା।	୦	୧	୨	୩	୪	୫	୬
(ଗ)		ହାରାହାରି ବିଗତ ସପ୍ତାହରେ ଶ୍ୱାସ ରୋଗ ସମସ୍ୟାର କାର୍ଯ୍ୟକଳାପ କିପରି ଥିଲା।	କୌଣସି ସୀମା ନଥିଲା	ବହୁତ କ୍ୱଚିତ	କିଛି ମାତ୍ରାରେ	ମାଧ୍ୟମ ଧରଣର	କଷ୍ଟରେ ରହିବା	ବହୁତ କଷ୍ଟରେ	ଅକ୍ଷମତା
4	(୧)	କଠିଣ ପ୍ରୟାସ କରିବା ଯେପରିକି (ସିଡ଼ି ଚଢିବା, ଖେଳିବା, ବ୍ୟସ୍ତ ହେବା)।	୦	୧	୨	୩	୪	୫	୬
4	(୨)	ମଧ୍ୟମ ଧରଣର କାର୍ଯ୍ୟକଳାପ ଯେପରିକି (ଚାଲିବା, ଘର କାମ କରିବା, ଜିନିଷ ବୋହିବା)।	୦	୧	୨	୩	୪	୫	୬
4	(୩)	ନିତିଦିନିଆ କାମ ଯେପରିକି (ଚାଲିବା), ଦୈନିକ କାର୍ଯ୍ୟ କରିବା।	୦	୧	୨	୩	୪	୫	୬
(ଘ)		ସାମାଜିକ କାର୍ଯ୍ୟକଳାପ।							
4	(୧)	କଥା କହିବା ସମୟରେ, ପିଲାମାନଙ୍କ ଗହଣରେ ରହିବ, ସାଙ୍ଗସାଥି/ ବନ୍ଧୁବାନ୍ଧବ ଘରକୁ ବୁଲିବାକୁ ଯିବା।	୦	୧	୨	୩	୪	୫	୬

CCQ ପ୍ରଶ୍ନର ଉତ୍ତରଦାତାଙ୍କ ଗଣନା ଅଙ୍କ: CCQ ସଂପୂର୍ଣ୍ଣ ଅଙ୍କ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୩ + ୪ + ୫ + ୬ + ୭ + ୮ + ୯ + ୧୦)/୧୦; ଲକ୍ଷଣ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୫ + ୬)/୪; କାର୍ଯ୍ୟ ବିବରଣୀ = (ପ୍ରଶ୍ନ ୭ + ୮ + ୯ + ୧୦)/୪; ମାନସିକ ସ୍ଥିତି = (ପ୍ରଶ୍ନ ୩ + ୪)/୨

11/9/25

REVIEW FORM 5

କ୍ଲିନିକାଲ ସିଓପିଡି ପ୍ରଶ୍ନ ବଳୀ

ଗତ ସପ୍ତାହରେ ଆପଣଙ୍କ ଅଭିଜ୍ଞତାକୁ ନେଇ ଗୋଟିଏ ଅନୁଭବ ଚିହ୍ନଟ କରନ୍ତୁ।

(ପ୍ରତ୍ୟେକ ପ୍ରଶ୍ନ ପାଇଁ କେବଳ ଗୋଟିଏ ଉତ୍ତର)

			ଆଦୌ ନୁହେଁ	ବହୁତ କ୍ୱଚିତ	କିଛି ସମୟରେ	ବାରମ୍ବାର	ବହୁତ ସମୟରେ	ଲଗ୍ଭା ସମୟ ପର୍ଯ୍ୟନ୍ତ	ପ୍ରାୟତଃ ସବୁ ସମୟରେ
(କ)	ପୂର୍ବ ସପ୍ତାହରେ ମୋଟାମୋଟି ଆପଣ ଶ୍ୱାସ ନେବାବେଳେ କିପରି ଅନୁଭବ କରିଥିଲେ ।								
4	(୧)	ବିଶ୍ରାମ ସମୟରେ ଶ୍ୱାସ ରୁଦ୍ଧ ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
4	(୨)	କାର୍ଯ୍ୟ କରିବା ସମୟରେ ଶ୍ୱାସକ୍ରିୟା ରେ ଅସୁବିଧା ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
4	(୩)	ଥଣ୍ଡା ହେବା ରୁ କିମ୍ବା ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା ବେଶୀ ଖରାପ ହେବାରୁ ଚିନ୍ତିତ ହେବା	୦	୧	୨	୩	୪	୫	୬
4	(୪)	ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା କୁ ନେଇ ଅବସାଦ(ମନ ଭଲ ନ ଲାଗିବା) ଅନୁଭବ କରିଥିଲେ?	୦	୧	୨	୩	୪	୫	୬
(ଖ)	ପୂର୍ବ ସପ୍ତାହରେ ଆପଣ କେତେଥର ଅନୁଭବ କରିଛନ୍ତି ।								
4	(୧)	ଜଫ ଅନୁଭବ କରିଥିଲେ ।	୦	୧	୨	୩	୪	୫	୬
4	(୨)	ନିଷ୍କ୍ରିୟତା ଅନୁଭବ କରିଥିଲେ କାଶ + ମକସ ନିଗ୍ରହ ହେବା ।	୦	୧	୨	୩	୪	୫	୬
(ଗ)	ହାରାହାରି ବିଗତ ସପ୍ତାହରେ ଶ୍ୱାସ ଗତ ସମସ୍ୟାର କାର୍ଯ୍ୟକଳାପ କିପରି ଥିଲା ।		କୌଣସି ସୀମା ନଥିଲା	ବହୁତ କ୍ୱଚିତ	କିଛି ମାତ୍ରାରେ	ମାଧ୍ୟମ ଧରଣର	କଷ୍ଟରେ ରହିବା	ବହୁତ କଷ୍ଟରେ	ଅକ୍ଷମତା
4	(୧)	କଠିଣ ପ୍ରୟାସ କରିବା ଯେପରିକି (ସାଢ଼ି ଚଢିବା , ଖେଳିବା, ବ୍ୟସ୍ତ ହେବା) ।	୦	୧	୨	୩	୪	୫	୬
4	(୨)	ମଧ୍ୟମ ଧରଣର କାର୍ଯ୍ୟକଳାପ ଯେପରିକି (ଡାଲିବା, ଘର କାମ କରିବା, ଜିନିଷ ବୋହିବା) ।	୦	୧	୨	୩	୪	୫	୬
4	(୩)	ନିତିଦିନିଆ କାମ ଯେପରିକି (ଡାଲିବା), ଦୈନିକ କାର୍ଯ୍ୟ କରିବା ।	୦	୧	୨	୩	୪	୫	୬
(ଘ)	ସାମାଜିକ କାର୍ଯ୍ୟକଳାପ ।								
4	(୧)	କଥା କହିବା ସମୟରେ, ପିଲାମାନଙ୍କ ଗହଣରେ ରହିବ, ସାଙ୍ଗସାଥି/ ବନ୍ଧୁବାନ୍ଧବ ଘରକୁ ବୁଲିବାକୁ ଯିବା ।	୦	୧	୨	୩	୪	୫	୬

CCQ ପ୍ରଶ୍ନର ଉତ୍ତରଦାତାଙ୍କ ଗଣନା ଅଙ୍କ: CCQ ସଂପୂର୍ଣ୍ଣ ଅଙ୍କ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୩ + ୪ + ୫ + ୬ + ୭ + ୮ + ୯ + ୧୦)/୧୦; ଲକ୍ଷଣ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୫ + ୬)/୪; କାର୍ଯ୍ୟ ବିବରଣୀ = (ପ୍ରଶ୍ନ ୬ + ୭ + ୯ + ୧୦)/୪; ମାନସିକ ସ୍ଥିତି = (ପ୍ରଶ୍ନ ୩ + ୪)/୨

ANNEXURE 5 – FINAL VERSION OF ODIA VERSION OF CCQ

କ୍ଲିନିକାଲ ସିଓପିଡି ପ୍ରଶ୍ନ ବଳୀ

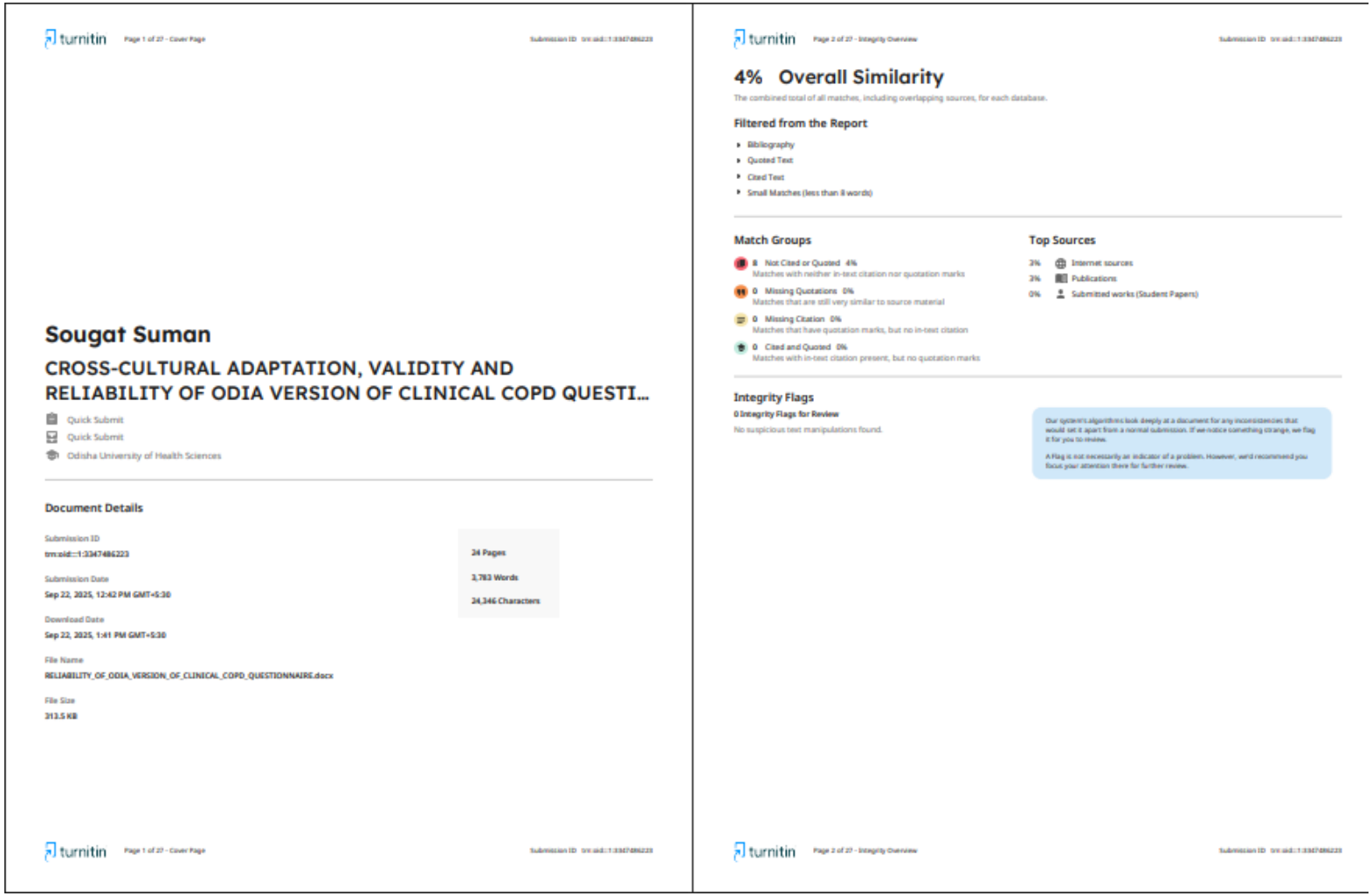
ଗତ ସପ୍ତାହରେ ଆପଣଙ୍କ ଅଭିଜ୍ଞତାକୁ ନେଇ ଗୋଟିଏ ଅନୁଭବ ଚିହ୍ନଟ କରନ୍ତୁ|

(ପ୍ରତ୍ୟେକ ପ୍ରଶ୍ନ ପାଇଁ କେବଳ ଗୋଟିଏ ଉତ୍ତର)

			ଆଦୌ ନୁହେଁ	ବହୁତ କ୍ୱଚିତ	କିଛି ସମୟରେ	ବାରମ୍ବାର	ବହୁତ ସମୟରେ	ଲମ୍ବା ସମୟ ପର୍ଯ୍ୟନ୍ତ	ପ୍ରାୟତଃ ସବୁ ସମୟରେ
(କ)	ପୂର୍ବ ସପ୍ତାହରେ ମୋଟାମୋଟି ଆପଣ ଶ୍ୱାସ ନେବାବେଳେ କିପରି ଅନୁଭବ କରିଥିଲେ ।								
	(୧)	ବିଶ୍ରାମ ସମୟରେ ଶ୍ୱାସ ରୁଦ୍ଧ ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
	(୨)	କାର୍ଯ୍ୟ କରିବା ସମୟରେ ଶ୍ୱାସକ୍ରିୟା ରେ ଅସୁବିଧା ଲାଗିବା ।	୦	୧	୨	୩	୪	୫	୬
	(୩)	ଥଣ୍ଡା ହେବା ରୁ କିମ୍ବା ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା ବେଶୀ ଖରାପ ହେବାରୁ ଚିନ୍ତିତ ହେବା	୦	୧	୨	୩	୪	୫	୬
	(୪)	ନିଶ୍ୱାସ ପ୍ରଶ୍ୱାସ ସମସ୍ୟା କୁ ନେଇ ଅବସାଦ(ମନ ଭଲ ନ ଲାଗିବା) ଅନୁଭବ କରିଥିଲେ?	୦	୧	୨	୩	୪	୫	୬
(ଖ)	ପୂର୍ବ ସପ୍ତାହରେ ଆପଣ କେତେଥର ଅନୁଭବ କରିଛନ୍ତି ।								
	(୧)	କଫ ଅନୁଭବ କରିଥିଲେ ।	୦	୧	୨	୩	୪	୫	୬
	(୨)	ନିଷ୍ପ୍ରିୟତା ଅନୁଭବ କରିଥିଲେ କାଶ + ମକସ ନିଗ୍ରହ ହେବା ।	୦	୧	୨	୩	୪	୫	୬
(ଗ)	ହାରାହାରି ବିଗତ ସପ୍ତାହରେ ଶ୍ୱାସ ଗତ ସମସ୍ୟାର କାର୍ଯ୍ୟକଳାପ କିପରି ଥିଲା ।		କୌଣସି ସୀମା ନଥିଲା	ବହୁତ କ୍ୱଚିତ	କିଛି ମାତ୍ରାରେ	ମାଧ୍ୟମ ଧରଣର	କଷ୍ଟରେ ରହିବା	ବହୁତ କଷ୍ଟରେ	ଅକ୍ଷମତା
	(୧)	କଠିଣ ପ୍ରୟାସ କରିବା ଯେପରିକି (ସୀଢ଼ି ଚଢିବା , ଖେଳିବା, ବ୍ୟସ୍ତ ହେବା) ।	୦	୧	୨	୩	୪	୫	୬
	(୨)	ମଧ୍ୟମ ଧରଣର କାର୍ଯ୍ୟକଳାପ ଯେପରିକି (ଚାଲିବା, ଘର କାମ କରିବା, କିନିଷ ବୋହିବା) ।	୦	୧	୨	୩	୪	୫	୬
	(୩)	ନିତିଦିନିଆ କାମ ଯେପରିକି (ଚାଲିବା), ଦୈନିକ କାର୍ଯ୍ୟ କରିବା ।	୦	୧	୨	୩	୪	୫	୬
(ଘ)	ସାମାଜିକ କାର୍ଯ୍ୟକଳାପ ।								
	(୧)	କଥା କହିବା ସମୟରେ, ପିଲମାନଙ୍କ ଗହଣରେ ରହିବ, ସାଙ୍ଗସାଥି/ ବନ୍ଧୁବାନ୍ଧବ ଘରକୁ ବୁଲିବାକୁ ଯିବା ।	୦	୧	୨	୩	୪	୫	୬

CCQ ପ୍ରଶ୍ନର ଉତ୍ତରବାଦୀଙ୍କ ଗଣନା ଅଙ୍କ: CCQ ସଂପୂର୍ଣ୍ଣ ଅଙ୍କ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୩ + ୪ + ୫ + ୬ + ୮ + ୯ + ୧୦)/୧୦; ଲକ୍ଷଣ = (ପ୍ରଶ୍ନ ୧ + ୨ + ୫ + ୬)/୪; କାର୍ଯ୍ୟ ବିବରଣୀ = (ପ୍ରଶ୍ନ ୬ + ୮ + ୯ + ୧୦)/୪; ମାନସିକ ସ୍ଥିତି = (ପ୍ରଶ୍ନ ୩ + ୪)/୨

ANNEXURE 6 – PLAGIARISM REPORT



turnitin Page 1 of 27 - Cover Page Submission ID trn:oid:::1:3347486223

Sougat Suman

CROSS-CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTI...

Quick Submit
Quick Submit
Odisha University of Health Sciences

Document Details

Submission ID
trn:oid:::1:3347486223

Submission Date
Sep 22, 2025, 12:42 PM GMT+5:30

Download Date
Sep 22, 2025, 1:41 PM GMT+5:30

File Name
RELIABILITY_OF_ODIA_VERSION_OF_CLINICAL_COPD_QUESTIONNAIRE.docx

File Size
313.5 KB

24 Pages
3,783 Words
24,346 Characters

turnitin Page 1 of 27 - Cover Page Submission ID trn:oid:::1:3347486223

turnitin Page 2 of 27 - Integrity Overview Submission ID trn:oid:::1:3347486223

4% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
- Quoted Text
- Cited Text
- Small Matches (less than 8 words)

Match Groups

8 Not Cited or Quoted 4%
Matches with neither in-text citation nor quotation marks

0 Missing Quotations 0%
Matches that are still very similar to source material

0 Missing Citation 0%
Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

3% Internet sources
3% Publications
0% Submitted works (Student Papers)

Integrity Flags

0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

turnitin Page 2 of 27 - Integrity Overview Submission ID trn:oid:::1:3347486223

ANNEXURE 7 – AI DETECTION SHEET

turnitin Page 1 of 26 - Cover Page Submission ID trn:oid:::1:3347486223

Sougat Suman

CROSS-CULTURAL ADAPTATION, VALIDITY AND RELIABILITY OF ODIA VERSION OF CLINICAL COPD QUESTI...

Quick Submit

Quick Submit

Odisha University of Health Sciences

Document Details

Submission ID
trn:oid:::1:3347486223

Submission Date
Sep 22, 2025, 12:42 PM GMT+5:30

Download Date
Sep 22, 2025, 1:41 PM GMT+5:30

File Name
RELIABILITY_OF_ODIA_VERSION_OF_CLINICAL_COPD_QUESTIONNAIRE.docx

File Size
313.5 KB

24 Pages

3,793 Words

24,346 Characters

turnitin Page 1 of 26 - Cover Page Submission ID trn:oid:::1:3347486223

turnitin Page 2 of 26 - AI Writing Overview Submission ID trn:oid:::1:3347486223

*% detected as AI

AI detection includes the possibility of false positives. Although some text in this submission is likely AI generated, scores below the 20% threshold are not surfaced because they have a higher likelihood of false positives.

Caution: Review required.

It is essential to understand the limitations of AI detection before making decisions about a student's work. We encourage you to learn more about Turnitin's AI detection capabilities before using the tool.

Disclaimer
Our AI writing assessment is designed to help educators identify text that might be prepared by a generative AI tool. Our AI writing assessment may not always be accurate (i.e., our AI models may produce either false positive results or false negative results), so it should not be used as the sole basis for adverse actions against a student. It takes further scrutiny and human judgment in conjunction with an organization's application of its specific academic policies to determine whether any academic misconduct has occurred.

Frequently Asked Questions

How should I interpret Turnitin's AI writing percentage and false positives?
The percentage shown in the AI writing report is the amount of qualifying text within the submission that Turnitin's AI writing detection model determines was either likely AI-generated text from a large-language model or likely AI-generated text that was likely revised using an AI paraphrase tool or word spinner.

False positives (incorrectly flagging human-written text as AI-generated) are a possibility in AI models.

AI detection scores under 20%, which we do not surface in new reports, have a higher likelihood of false positives. To reduce the likelihood of misinterpretation, no score or highlights are attributed and are indicated with an asterisk in the report (*%).

The AI writing percentage should not be the sole basis to determine whether misconduct has occurred. The reviewer/instructor should use the percentage as a means to start a formative conversation with their student and/or use it to examine the submitted assignment in accordance with their school's policies.

What does 'qualifying text' mean?
Our model only processes qualifying text in the form of long-form writing. Long-form writing means individual sentences contained in paragraphs that make up a longer piece of written work, such as an essay, a dissertation, or an article, etc. Qualifying text that has been determined to be likely AI-generated will be highlighted in cyan in the submission, and likely AI-generated and then likely AI-paraphrased will be highlighted purple.

Non-qualifying text, such as bullet points, annotated bibliographies, etc., will not be processed and can create disparity between the submission highlights and the percentage shown.

turnitin Page 2 of 26 - AI Writing Overview Submission ID trn:oid:::1:3347486223