

Teleconsultation Integration Protocol for Diet Clinic within Dietetics Professional Practicum at Teaching Hospital

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Abstract:

Background/Problem: The primary goal of the clinical internship for dietetic interns is to foster their competency in effectively managing the nutrition of patients. Amid the COVID-19 pandemic, the Ministry of Higher Education mandated that students refrain from physical attendance at universities. The significance of teleconsultation in the realm of dietetic practices has become even more apparent during this period, particularly for patients referred to dietitians and for students honing their patient management skills within the diet clinic. Effective planning and adherence to teleconsultation protocols are imperative to mitigate any delays in delivering crucial medical nutrition therapy (MNT) to both existing and new clients. Consequently, there's a heightened need to underscore the competency of nutrition management skills among dietetic interns. **Purpose:** This study seeks to implement a teleconsultation protocol for nutrition management within a diet clinic. **Design:** Presented here is a streamlined protocol for conducting teleconsultations within a Diet Clinic. **Conclusion:** The teleconsultation protocol devised and employed in this study for the Diet Clinic serves as a pivotal instrument for administering MNT, ensuring precise nutritional management for patients, and affording dietetic interns the opportunity to refine their skills in an online setting.

Keywords: Teleconsultation; Dietetics; Medical Nutrition Therapy; Competence Skill

Introduction

In December 2019, a novel virus emerged, triggering a widespread outbreak across nearly all continents, and catching the world off guard. The virus is now recognized as COVID-19, caused

by SAR coronavirus 2 (SARS-Cov-2). The infection from COVID-19 virus spread uncontrollably, causing a pandemic which eventually led to the WHO Emergency Committee to declare a state of emergency. In response, heavily impacted nations including Malaysia instituted stringent rules and regulations leading to lockdown measures. The Movement Control Order (MCO) measures encompassed a comprehensive range of actions, including a complete prohibition on individuals leaving their residences and participating in large gatherings, such as religious, sports, social, and cultural events. Simultaneously, strict limitations were imposed on both domestic and international travel. Furthermore, academic institutions, both public and private, were compelled to suspend operations, except for emergency facilities. Government and private buildings alike were also subjected to closures during this period, as part of these containment efforts (Khor et. Al, 2020).

In higher education, students also have to face the challenge of the new structure of study from practical to theory only, as labs and lecture halls were all ordered to be closed. Students are exposed for online classes and assignments. Final-year dietetics students have been particularly hard-hit by the disruption caused by the pandemic. A significant portion of their clinical dietetics professional internships, typically carried out in hospitals, has been severely affected. Activities that were designed to provide hands-on experience and skill development in managing patients within clinical environments have encountered substantial challenges (Webster, 2020). Hence, the need has arisen to transition from traditional in-person client interactions to the adoption of Diet Clinic Teleconsultation. This innovative approach serves as a crucial tool for dietetic interns to effectively practice and refine their skills in managing patients' nutritional needs.

Nevertheless, the idea of teleconsultation is also may expand the usability of this protocol beyond pandemic was to help the hospital or dietitian to manage the cases without patients to be there. For example: patients who are not able to come to clinic due to transportation or at home surveillance or under quarantine. This can help reducing the healthcare system which also benefit the inconvenience to the patients and their families. In addition, the teleconsultation also can cover wider coverage rather than within the hospital area.

Transitioning from the conventional in-person client consultations to teleconsultation comes with its own set of challenge (Doaa, 2020). To ensure the successful implementation of teleconsultation, this article outlines the protocol and steps for integrating dietetics teleconsultation within a diet clinic during the dietetics professional practicum.

Step 1: Application

The preparation for the establishment of teleconsultation entails early-stage application and necessary requirements within the diet clinic setting. Before progressing with the teleconsultation implementation, it is crucial to present the application through an Administration Meeting within the Hospital. After obtaining approval, the official approval letter is then submitted to the Director of the Teaching Hospital, seeking permission to execute teleconsultation practices within the hospital premises. Subsequently, this approval is also communicated to the Head of the Clinical Unit to notify them about the forthcoming development of teleconsultation within the diet clinic.

Step 2: Preparation

Preparation for the teleconsultation involves the following: a) physical and technical needs, b) healthcare provider's requirement, c) patient suitability d) confidentiality, e) consent, f) consultation documentation, g) pre-teleconsultation preparation, and h) payment.

a. Physical and technical needs

In essence, the requisites for delivering teleconsultation services encompass both physical infrastructure and the involvement of healthcare providers. Regarding physical requirements, the diet clinic should ideally be equipped with a computer or laptop, featuring a camera/webcam with optimal resolution, and a functional microphone to ensure seamless video and audio transmission. Additionally, the availability of reliable internet access, preferably through the hospital's internet services, is crucial. The selection of approved software applications like Zoom, Webex, or Google Meet (Office of Civil Rights, 2020) is paramount for facilitating interactions while maintaining patient confidentiality.

b. Healthcare provider's requirement

Healthcare providers engaging in teleconsultation services are mandated to fulfill specific prerequisites. These include possessing a valid APC (Annual Practising Certificate) that aligns with the regulations stipulated in the Malaysia Teleconsultation Act of 1997 (Malaysia Teleconsultation Act, 1997). Furthermore, they should have a fundamental grasp of the software employed for teleconsultations, encompassing its operational intricacies. A comprehensive understanding of the strengths and limitations associated with teleconsultation, along with a sensitivity to ethical concerns and confidentiality considerations inherent to this mode of interaction, is imperative.

Before commencing teleconsultation activities, healthcare providers are required to secure consent from the respective department head. Equally essential is their completion of formal training in teleconsultation, thus ensuring a proficient and knowledgeable approach to delivering these services. Healthcare providers must adhere to the same ethical standards and code of conduct, whether the telemedicine service is sourced locally or from abroad (Malaysian Medical Council Advisory on Virtual Consultation, 2020 & Laws of Malaysia Act 588 Communications and Multimedia Act, 1998)

c. Patient suitability

The scope of teleconsultation services within the diet clinic is limited to patients who are undergoing follow-up consultations. The exclusion criteria encompass individuals who are in their initial contact stage with the clinic, those who pose an acute risk of harm, and those necessitating physical examinations. Furthermore, patients who lack technological proficiency, lack the requisite IT equipment, or decline to provide consent or adhere to the contingency management plan are also ineligible for teleconsultations.

d. Confidentiality

The confidentiality standards upheld during teleconsultations mirror those observed in a traditional clinical environment, ensuring the safeguarding of patient-dietitian confidentiality at all times (Laws of Malaysia Act 588 Communications and Multimedia Act, 1998). Recording sessions is only permissible if explicit written consent is secured beforehand. Such recordings are exclusively intended for educational or research purposes and must adhere to stringent guidelines. Patient data featured in these recordings must be appropriately anonymized when employed for educational or research purposes. These records are securely stored on a password-protected physical hard drive, precluding storage on cloud services or the computer used for the

teleconsultation. The dietitian assumes the responsibility of guaranteeing the stringent protection of this data (Telemedicine Flagship Application, 1997).

e. Consent

Prior to commencing the initial teleconsultation, it is imperative to secure written consent from the patient (refer to Appendix 1). This consent procedure ensures that patients possess a clear comprehension of the advantages and potential drawbacks associated with teleconsultation. Patients are also required to concur with a contingency management plan, which healthcare providers can activate if a risk of harm is identified during the teleconsultation. This plan encompasses the patient's agreement for the potential breach of patient-dietitian confidentiality in circumstances deemed necessary.

f. Consultation documentation

Every consultation and registration should be meticulously documented within the client's medical record, specifically referred to as the "Dietetics Care Note". This comprehensive documentation must encompass all elements of the nutrition care process, including nutrition assessment, nutrition diagnosis, nutrition intervention, and nutrition monitoring and evaluation. This meticulous record-keeping practice should be upheld consistently, adhering to the same stringent standards of confidentiality protection that are applied to all medical records.

g. Pre-teleconsultation preparation

Standardized documentation has been thoughtfully curated, encompassing essential guidelines tailored for dietetic interns (refer to Appendix 2). These guidelines are accompanied by educational tools, a registration form, and a systematic procedure, all of which play a pivotal role in optimizing the teleconsultation experience. The dietetic interns are meticulously trained, ensuring their adherence to the stipulated guidelines prior to conducting any teleconsultation sessions.

The educational tools are thoughtfully presented in a meticulously designed format, meticulously proofread by the dietitian, and then deemed suitable for visual presentation during teleconsultations. These online resources are instrumental in aiding patients to grasp and effectively follow medical nutrition therapy. The comprehensive guidelines encompass the teleconsultation process, security considerations, privacy and confidentiality protocols, and ethical considerations surrounding the patient-dietitian relationship.

h. Payment

The fees for teleconsultation services should mirror those set for in-person consultations.

Patients holding guaranteed letters are entitled to the same privileges they would typically receive through in-person consultations, as per the applicable policies within the hospital.

Step 3: Pre-testing

Before the commencement of actual teleconsultations, a pre-testing phase was undertaken to assess the process and techniques involved in teleconsultation. This involved enlisting a simulated patient to simulate a teleconsultation scenario. The primary

objective of the pre-test was to evaluate the comprehension of the guidelines by both dietetic interns and dietitians. Additionally, it served to ascertain the overall flow of the teleconsultation process, identifying any areas that required adjustments to enhance the smoothness of the teleconsultation experience.

Step 4: Implementation

The initial implementation process involved a setup where the dietitian and patient were present in the diet clinic physically (for the first visit), while the dietetics intern participated virtually. The step of implementation starts with a) initiation and registration of diet clinic teleconsultation, b) teleconsultation service, and c) contingency plan for technical errors (Appendix 3).

a. Initiation and registration

Patients opting for teleconsultation are required to register at the designated registration counter before their consultation. Teleconsultations (for the subsequent visits) are exclusively scheduled through appointments. Patients are charged the applicable fee and issued a queue number. Prior to any observation or involvement of dietetic students during the teleconsultation, patient consent is obtained. Patients must grant their consent before entering the diet clinic premises.

Dietitians provide patients with a comprehensive briefing regarding the teleconsultation process. If patients are in agreement with the terms and conditions, they proceed to sign the patient consent form (refer to Appendix 1).

In instances where patients consent to teleconsultation, dietitians may permit dietetics interns to observe and potentially engage in some or all components of the nutrition care process (NCP), under the supervision and guidance of the dietitian. If patients decline teleconsultation, the NCP is carried out through traditional face-to-face consultation with the dietitian.

For follow-up visits, the dietitian furnishes patients with the Teleconsultation Appointment (TCA) date and time. In the absence of such appointments, patients may be discharged from further consultations under the dietitian's discretion.

b. Teleconsultation service

Prior to the initiation of a teleconsultation session for patients who have consented and agreed to the service, several preliminary steps are undertaken: 1) **Connectivity and Confidentiality Check**: The dietitian conducts a thorough check to ensure the connectivity and confidentiality aspects of the patient's teleconsultation are in place; 2) **Dietitian's Connectivity**: The dietitian remains logged in using the hospital's internet service and ensures that the teleconsultation software is prepared and ready for the session; 3) **Non-Recording**: It is emphasized that no recording of the teleconsultation session should take place; 4) **Case Sharing and Discussion**: The dietitian shares the patient's folder with the dietetics intern and discusses the case details in preparation for the session; 5) **Patient Contact**: Once all preparations are complete, the dietitian initiates contact with the patient using the assigned queue number; 6) **Case Discussion**: Prior to involving the patient, the dietitian reviews and discusses the case with the dietetics intern to ensure a coordinated approach; 7) **Patient Engagement**: The dietetics

intern leads the teleconsultation session using the components of the Nutrition Care Process (NCP), under the supervision and guidance of the dietitian; 8) **Follow-up Arrangements:** For follow-up visits, the dietitian schedules the Teleconsultation Appointment (TCA) date and time with the patient. During this process, the patient may also be consulted regarding their preference for continuing with teleconsultation or opting for an in-person visit on the next occasion.

c. Contingency plan for technical errors

In the event of connectivity troubles faced by dietetics interns during teleconsultations, patients are informed of the occurring error. If the patient agrees to a reconnection attempt, the dietitian proceeds by calling the disconnected intern, granting one minute for reconnection. If successful, the teleconsultation resumes; if not, the dietitian can either continue without the intern's involvement or transition to a physical consultation. This systematic process ensures patient awareness, timely resolution, and seamless continuation of the teleconsultation process.

1. Conclusion

The COVID-19 has transformed the provision of nutrition management of patients with applications of teleconsultation in enabling students to refine and apply their skills in conducting the NCP when interacting with patients. This creates an urgent need for the established teleconsultation protocol within the diet clinic. This protocol has demonstrated feasibility and effectiveness solutions into the health care system. The protocol stands as a foundational guideline that can potentially serve as a valuable reference for outpatient diet clinics on both a global and local scale. In the long run, teleconsultation has the potential to become a standard practice for dietitians when engaging with patients within the outpatient clinic setting.

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<https://www.moh.gov.my/moh/resources/auto%20download%20images/5ca1b20928065.pdf>

Appendix 1



**DEPARTMENT OF DIETETICS
HOSPITAL SULTAN ABDUL AZIZ SHAH
UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG,**

PATIENT FORM PATIENT (TELECONSULTATION)

I, _____, confirm that I have received the necessary information to sign this form and I agree to take part in a live teleconsultation session with the consulting with the student and being supervised by Dietitian at the Clinic Diet, Hospital Pengajar Universiti Putra Malaysia.

I understand that:

1. The health centre has access to all necessary technological resources with a view to mitigating the risk of confidentiality breaches and/or information loss during transmission of electronic files containing clinical data.
2. The teleconsultation is private and all participants are visible on the screen and are exclusively authorized staff members.
3. The teleconsultation will not be recorded under any circumstances. This ensures that no one else will be able to view or listen to the consultation without my knowledge.
4. It may be necessary to share information about me in order to properly guide the required care and services in line with my state of health.
5. I hereby authorize access to this information by the health centre's healthcare professionals for the sole purpose of offering me, via this teleconsultation, the required care in line with my state of health.
6. In light of the teleconsultation, the healthcare professionals involved in caring for me may carry out an assessment and may discuss my case, whether I am present or not, for the sole purpose of providing optimal follow-up.
7. I hereby authorize that in addition to the file kept by the consulting professional, a summary of the teleconsultation will be included in my file at the health centre in order to ensure appropriate follow-up.
8. My consent to the disclosure of information about me shall remain valid while my file remains active in my original health centre or for one year as of the date on which this form is signed.

In witness whereof, I hereby certify that:

- I have read and understand this document.
- I have had an opportunity to ask all my questions and have obtained satisfactory answers.
- I have been able to make a free and enlightened decision with regard to carrying out the teleconsultation.

(Patient's Signature)

(Witness's Signature)

Name:

Name:

ID number:

Date:

Legal guardian (as applicable):

Date:

I confirm that I have explained to this respondent the nature and purpose of the virtual clinic mentioned above.

Date:

Signature:

(Dietitian)

Appendix 2

CHECKLIST TELECONSULTATION FOR STUDENTS

Do's	Don'ts
<p>Before</p> <ul style="list-style-type: none"> ● Make sure you have a good internet connection ● Wear appropriate and formal cloth during the session with patient ● Make sure that patient able to hear you and you are able to hear patient ● Make sure all educational tools saved in desktop and share screen if needed ● Make sure there are house measurement tools near you to be used during the session ● Make sure to use zoom background given ● Make sure the session is held in closed room to avoid any leak of patients information ● Make sure there is no background noise ● Be in a close space so that there will no interruption during the session ● Set up the camera at eye level so that patients can see your face clearly ● If possible, find a good lighting area <p>During</p> <ul style="list-style-type: none"> ● Greet patient nicely and introduce self ● Ask consent from the patients to start the teleconsultation. ● Briefly explain the flow of the session so that patients acknowledge what they need to do. ● If there is problem with internet connection: <ul style="list-style-type: none"> -If able to reconnect less than 5 minutes, continue with the session -If unable to reconnect after 5 minutes, dietitian will take over the session -If able to reconnect less than 5 minutes but disconnect from zoom for second time, dietitian will take over the session 	<p>Before</p> <ul style="list-style-type: none"> ● Don't start the session unprepared ● Don't open any documents, music or videos which do not related with the session <p>During</p> <ul style="list-style-type: none"> ● Don't panic if there is a problem with connection. Try to reconnect as soon as possible ● Don't take photos, screen capture or screen record during the session especially regarding patient's information ● Don't do anything unrelated to the session such as watching videos, listening to music etc.

<ul style="list-style-type: none">• Ask dietitian in charge to do any anthropometry measurement (weight, height, waist circumference) to the patient• Give 100% attention to the patient• Dietitian will plug in the earphone during discussion with student (before giving intervention to patient). <p>After</p> <ul style="list-style-type: none">• Make sure to have a good closing and greet patient nicely• Make sure to mute the mic after finish all the session with patient• Jot down every important information	<p>After</p> <ul style="list-style-type: none">• Do not share patient's data and information to anybody especially on social media.
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Extra Tips

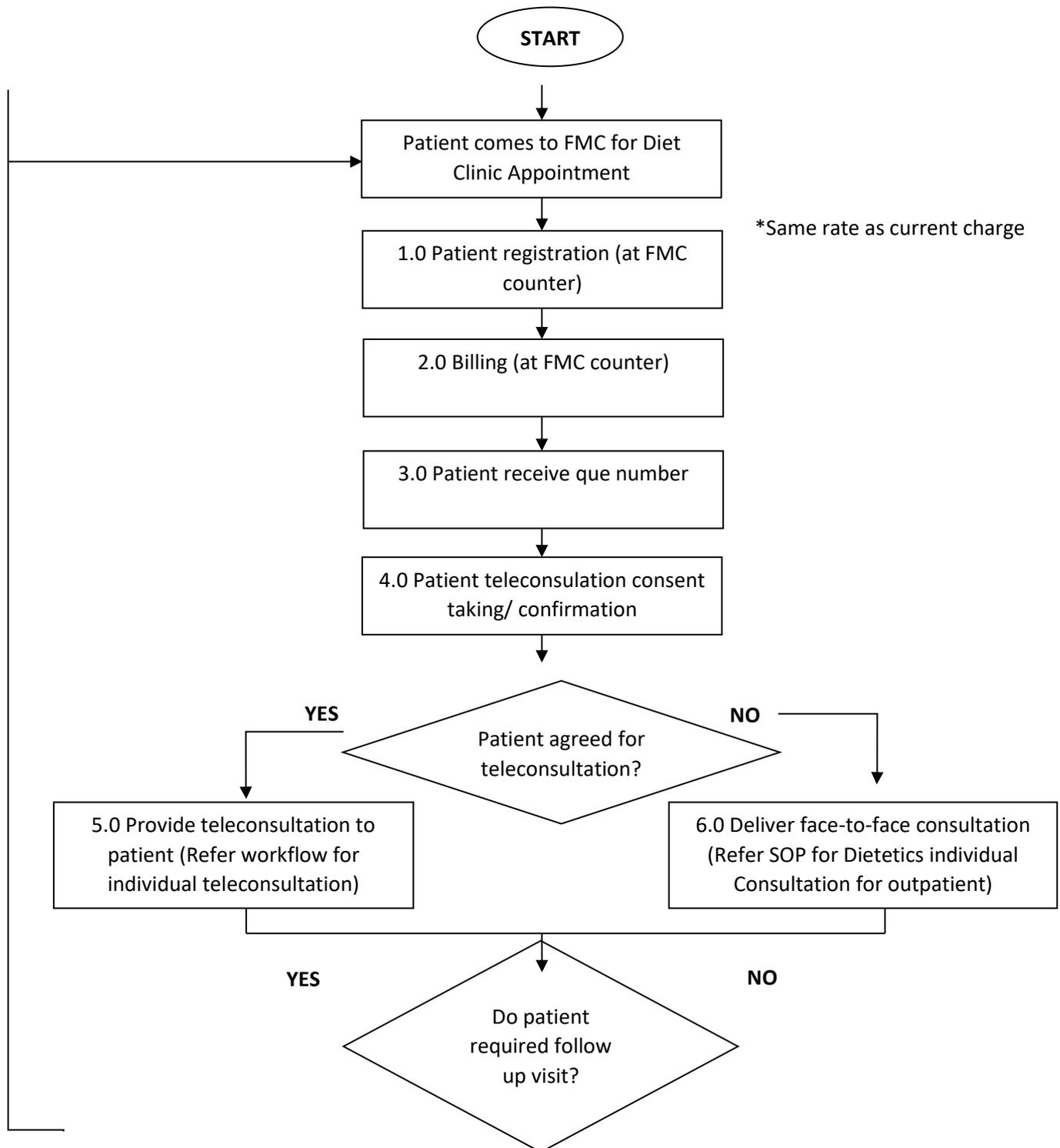
- Make sure all educational tools saved in a proper document at desktop to have a good and smooth counselling session
- If your network bandwidth is low, avoid sharing online information - share offline educational tools instead. If the connect is very unstable, can avoid open the camera (ask permission from all especially patient)

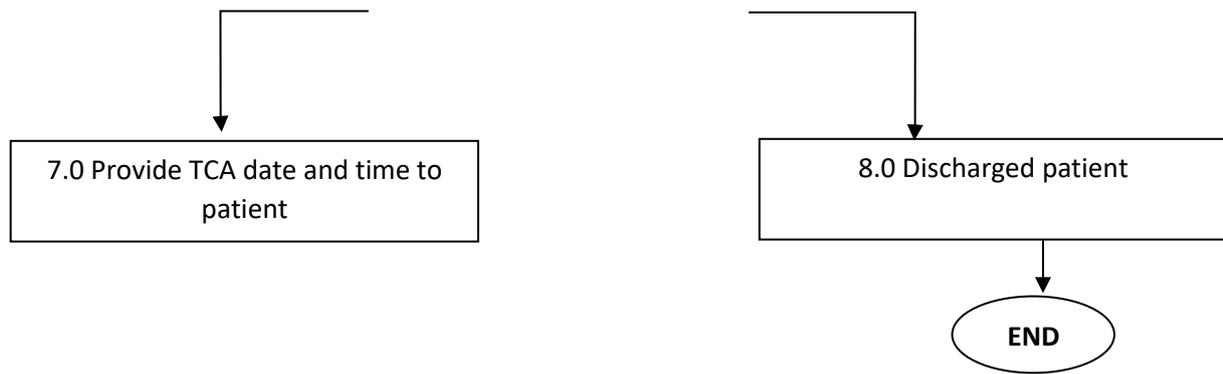
Appendix 3

FLOWCHART

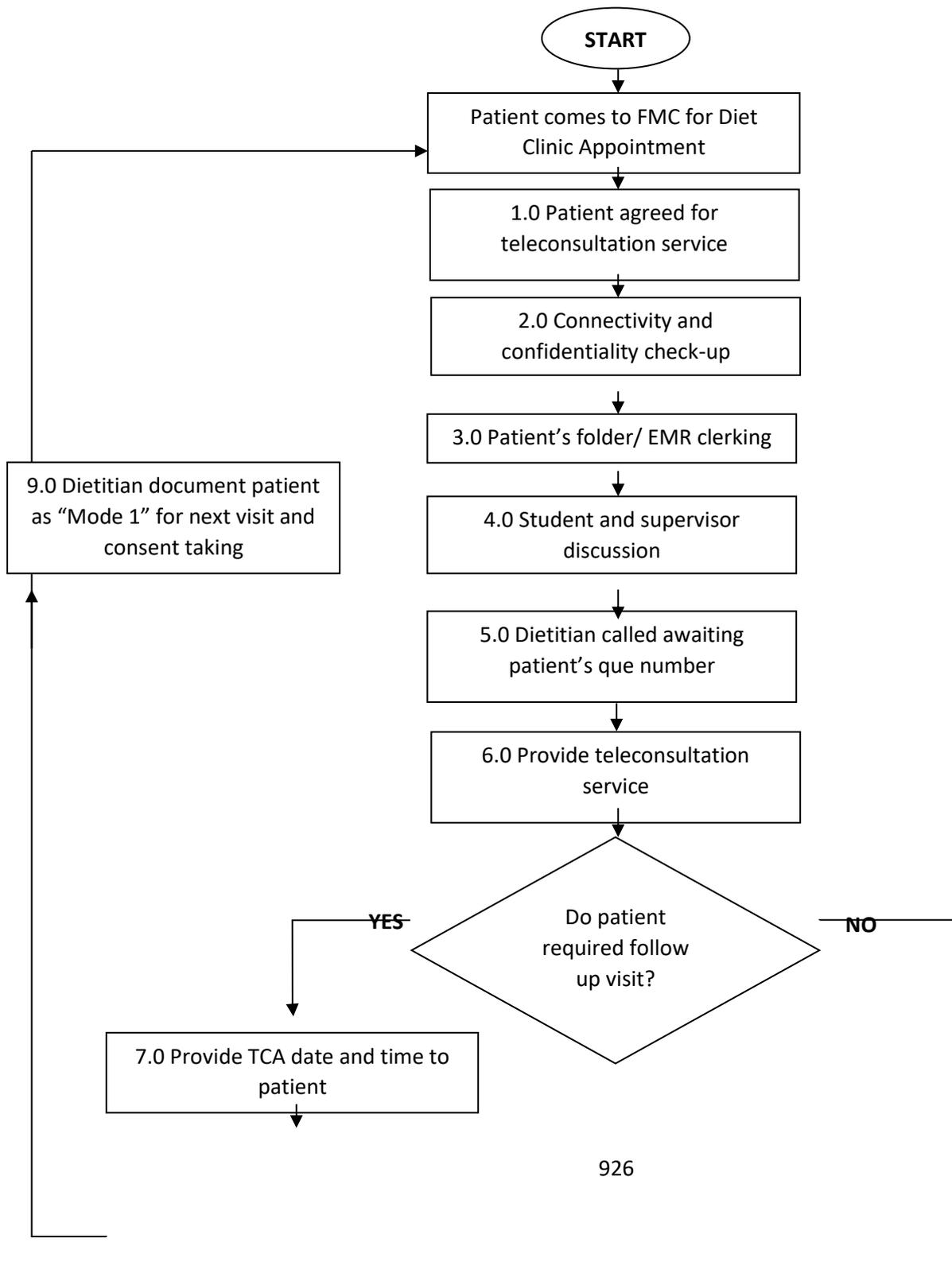
MODE 1: Patient comes to Diet Clinic.

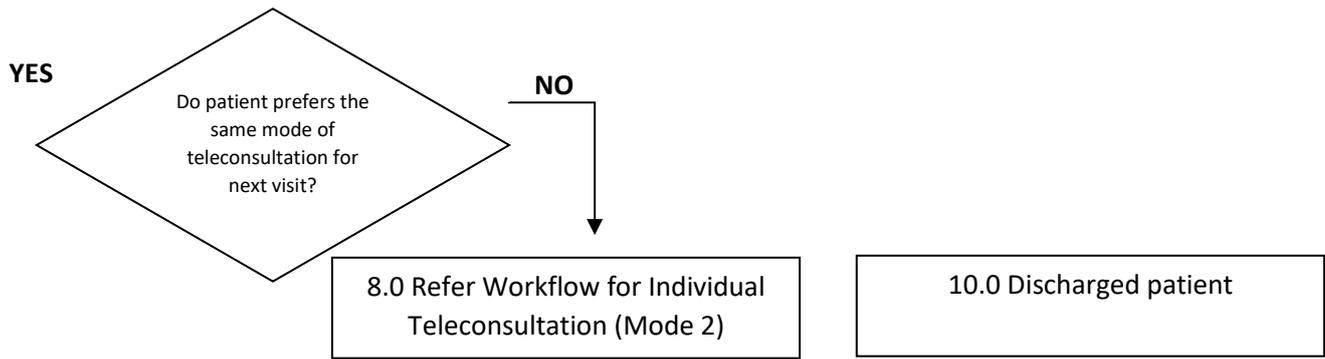
a) Initiation and Registration.





b) Individual Teleconsultation for Dietetics Outpatient Service





c) Contingency plan for technical errors.

