```csharp
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

public class PlayerMovement : MonoBehaviour
{
    public float moveSpeed = 3.5f;
    public float rotateSpeed = 100.0f;
    private Rigidbody rb;

    // Start is called before the first frame update
    void Start()
    {
        rb = GetComponent<Rigidbody>();
    }


    // Update is called once per frame
    void FixedUpdate()
    {
        Vector3 movement = new Vector3(Input.GetAxis("Horizontal"), 0, Input.GetAxis("Vertical")).normalized;

        Vector3 rotateY = new Vector3(0, Input.GetAxis("Mouse X") * rotateSpeed * Time.deltaTime, 0);
        if (movement != Vector3.zero)
        {
            rb.MoveRotation(rb.rotation * Quaternion.Euler(rotateY));
        }
        rb.MovePosition(rb.position + transform.forward * Input.GetAxis("Vertical") * moveSpeed * Time.deltaTime +
          transform.right * Input.GetAxis("Horizontal") * moveSpeed * Time.deltaTime);
    }
}
```